BRITAIN'S BEST-SELLING MACINTOSH MAGAZINE

MACFORMAT

ISSUE 21 ■ FEBRUARY 1995 ■ £3.95 WITH HD DISKS

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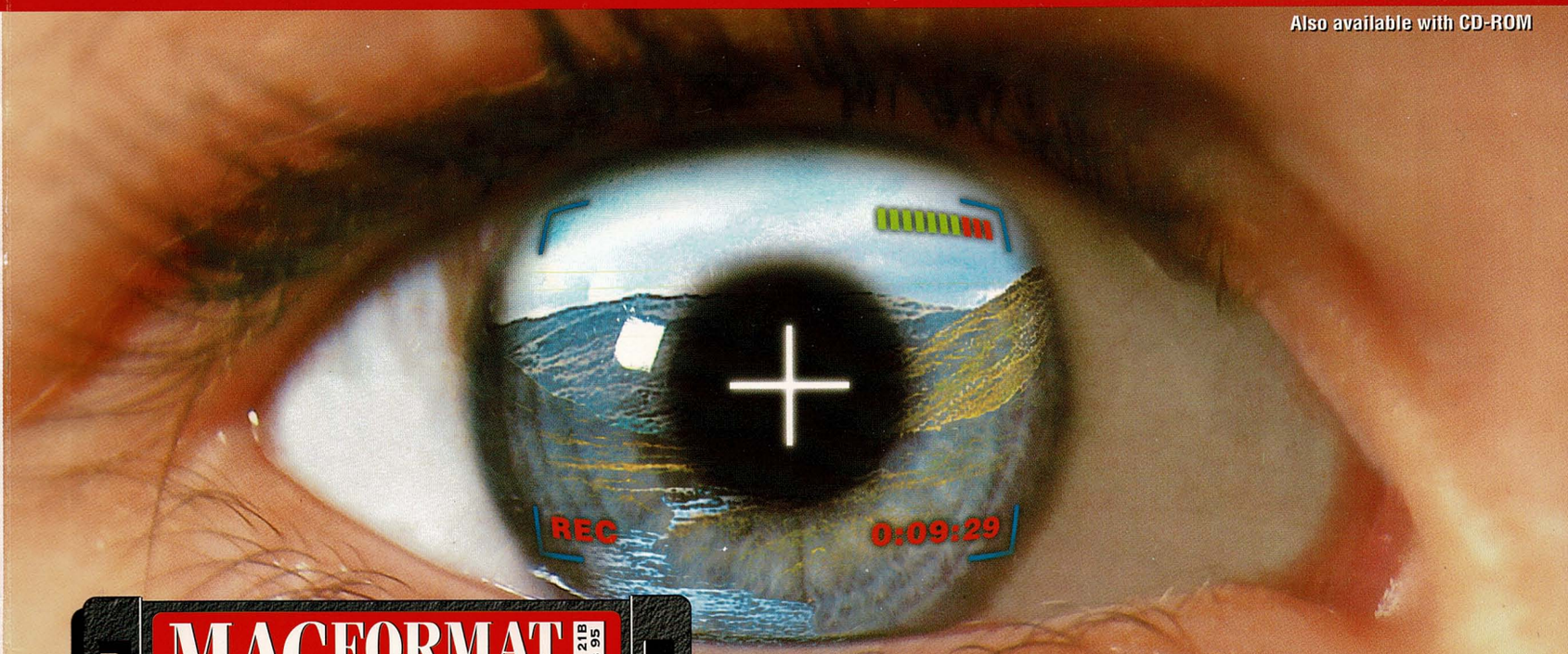

MACFORMAT
DISK 21B FEB 95
Video on a floppy!
VideoShop
Test run one of the best video editing packages available. Create your own movies and add special effects for stunning results. There's a full review of VideoShop in our cover feature.
Movie Clips
To get you started making your own movies we have put together some clips taken at the 1994 Apple Expo show. It's easy to do by following our full instructions inside the magazine.
See back cover of magazine for more details & compatibility information
OVER 2MB OF GREAT SOFTWARE!
MACFORMAT
DISK 21A FEB 95
WORDSMITH
The great new game to test your vocabulary
Snapz
The screen grabber that can capture any screen
Trojka
More addictive than Tetris!
FlashWorks
Learn foreign languages
Mombasa
A fabulous mind game
Peter's Player
A great movie player
PopChar
A replacement for Key Caps
QuickDelete
Trash files more quickly
Troubleshooting
A collection of essential utilities
See back cover of magazine for more details & compatibility information
NEARLY 3MB OF GREAT SOFTWARE!
If your Disks are missing, ask your newsagent

ZOOM IN!

Macs are changing the face of video editing! Try Desktop Video yourself with our cover disk demos

Budget price Mac games

But which are bargains and which still aren't?

Out of disk space?

From floppy to floptical – what to buy for more Mbs

I can't save this file!

What to do when everyday functions just don't work

PLUS 3D illustration ■ How to get goodies from the 'Net ■ Wolfenstein reviewed ■ ¡Høłÿ Çœw! How to find those special characters

Future PUBLISHING
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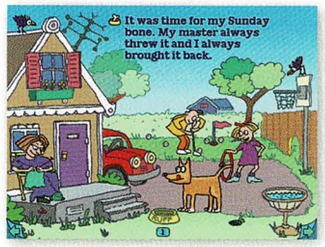
Please check for availability.

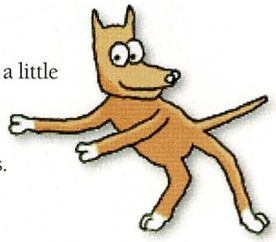
SUPERIOR SOFTWARE — SOFT line — SERVICE AND SUPPORT

A guide to the Living Books...

THE LIVING BOOKS are a series of interactive animated stories for children. These award winning CD ROMs let them join in with the fun whilst learning. Children don't just read Living Books, they live them!



Harry and the Haunted House.
A group of friends playing ball accidentally hit it into a spooky old house. Harry D. Rabbit and his friends tiptoe throughout the house and have some hair raising experiences while searching for their ball. Age range 3-8 SRP £39.99



Ruff's Bone. His Master throws his bone just a little further than usual taking Ruff on a voyage of discovery. Underground, overground, on sea and in the air, our faithful dog meets lots of crazy characters. Age range 3-8 SRP £39.99

Little Monster at School. Children spend the day with Little Monster from getting ready for school to learning his alphabet and numbers. Especially recommended for children who are about to go to school for the first time. Age range 3-8 SRP £39.99

Just Grandma and Me. The pioneer of the Living Books range follows our hero and his Grandma on a day trip to the beach. Complete with lots of adventures and surprises along the way. Age range 3-8 SRP £34.03

Arthurs Birthday. The Arthur stories are aimed at older children and involve him and his school friends. This time there is a clash of birthday party dates which cause problems until Arthur has a brainstorm. Age range 5-10 SRP £39.99

Arthur's Teacher Trouble.
Arthur's new teacher has earned a nickname — the Rat. Famous for giving tons of homework Arthur now has the added pressure of a school spelling test. Age range 5-10 SRP £34.03

The Tortoise and the Hare.
This is the classic Aesop's fable given the Living Books treatment. Lots of antics and surprises in this retelling. Age range 3-8 SRP £34.03

All prices shown are Suggested Retail Prices exclusive of VAT.

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ON A MISSION...

...ON

TO SAVE YOUR MAC

Launch Pad

Does turning on your Mac to find your letters folder replaced by inane Kid Pix scribblings sound familiar? Reduced to hiding your mouse away from inquisitive little hands? Introducing Launch Pad, the fun, exciting desktop for kids that keeps your files safe. You approve the programs, desk accessories and documents that your child can use and they get the most colourful, animated and wacky desktops they can imagine! Let Bingo the dog take them to one of six animated worlds: Dinosaurs, Enchanted Castle, Haunted House, Sunken Treasure, Outer Space and an After Dark Cinema. Finally, no more sleepless nights... SRP £39

...YOUR SCREEN

After Dark 3.0

Now let Bad Dog trash your desktop, join in with the Karaoke Flying Toasters or play 'You Bet Your Head'. Additionally there's the **Complete After Dark Collection CD** which includes all the After Dark modules: After Dark 2.0, More After Dark and After Dark 3.0.

The Simpsons

For Bart fans there's a Screen Saver with Fifteen hilarious, animated displays featuring Bart, Homer, Lisa, Marge, Maggie, Krusty the clown—and more! Marvel nuts will need **The X-Men Screen** Saver which brings Marvel Comics' mighty super-heros to your desktop. SRP £34.99ea, CD-ROM £49.99

...AND YOUR TIME.

Expresso

Forgotten your wife/husband/sister/daughters birthday again? Missed that meeting again? You need Expresso the innovative new Calendar, Diary and Address Book. There are lots of computerised calendars but Expresso acts and looks different. For starters it's always available at the touch of a button. Using FlashBack you can make your calendar screen the actual desktop, just like a blotter or wallchart. There are 20 different looks of calendar so you can really personalise your day, including those sticky-notes that always seem to slide off your monitor in real life. Expresso features an address book, reminder scheduling, diary views, multi-user sharing and sharp looking printouts. It's ideal for anyone who wants to be organised, and that includes you too... SRP £49.99

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The Finder

MACFORMAT

Welcome again to MACFORMAT, Britain's best-selling Mac magazine! Whether you're a veteran or a novice, we'll bring you news, reviews of affordable and interesting new products, tips and techniques to help you get more out of your Mac, whatever you use it for!

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A word on prices...
We try to ensure that all prices quoted in editorial pages in MACFORMAT are accurate at the time of going to press, and they are all inclusive of UK Value Added Tax at 17.5%. However, this may not necessarily be the case with prices appearing in advertisements, so we recommend that you always contact advertisers before ordering to confirm prices and availability. See page 121 for some helpful buying advice.

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Comms: 'Net Profit 67
We show you how to get the best in on-line shareware

HyperCard 78
The latest version of Apple's original multimedia program includes a powerful set of new tools – here's the details

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A step-by-step guide to opening and saving documents

Troubleshooting 92
Sometimes even the simplest things don't go as planned. We show you how to solve those niggling Mac problems

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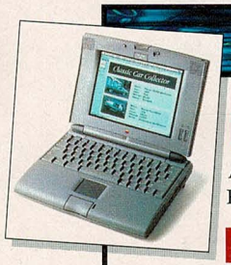
Discover the secrets of creating fabulous 3D images on a Mac in our guide to the essentials of rendering

Spreadsheets 110
Keep the wolves from your door as we show you the easy way to balance the books with some help from your Mac



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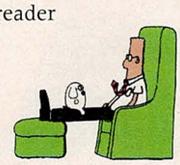

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Win! Win! Win! 130
One of the stars of our desktop video special is the video editing program *MediaFactory*. You could win one of ten copies!

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You may be able to create your own Mac movies, but this program helps you write great scripts for them

Final Draft 60
If you want to sell a script, it has to look the part. This specialised word processor makes it easy for you

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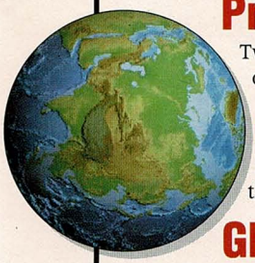

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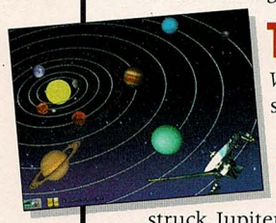

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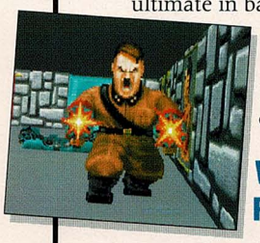

Games Reviews
It's not just old games that are getting cheaper – here are two brand-new bargains

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Claris Organiser 120
Get organised with this all-in-one address book, diary and notebook – never miss an appointment again

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Keep up with your ever-growing CD-ROM collection

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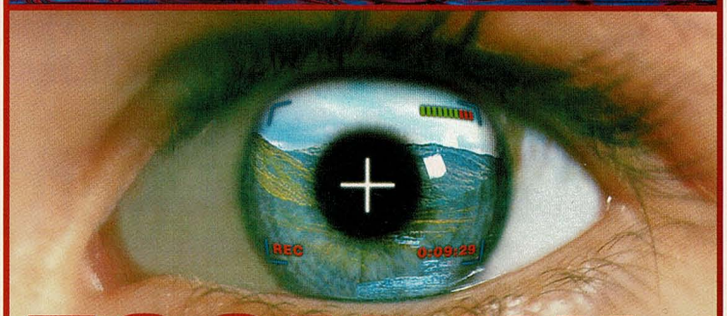

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Learn how Macs are transforming BBC documentaries

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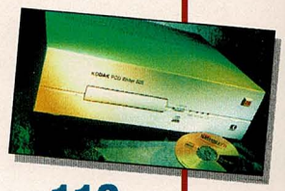


Hard Alternatives 56
What's a Mac to do when its hard drive's full? We make sense of all your storage options

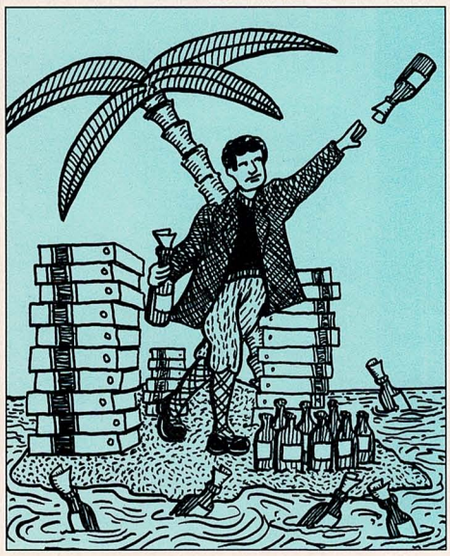
Budget Games 112
From *Monkey Island* to arcade blasters – it's all here at bargain prices. Which ones are worth it?

COVER DISKS

Your Cover Disks 7
Our double-disk bonanza includes a demo of *VideoShop* for you to try. You can also spread harmony across Europe with a language tutor, play three great games and watch movies on your Mac

Your CD-ROM 9
If you have the CD-ROM edition of this issue, you have everything from the floppy disks and much more! There are fabulous demos of *Marathon*, *Ghosts* and *Nisus Writer*, a 200Mb video spectacular of program demos and movie clips, plus 150Mb of the latest shareware!

When your Client's calling for last year's research summary now, don't be left high and dry...



...Access me!

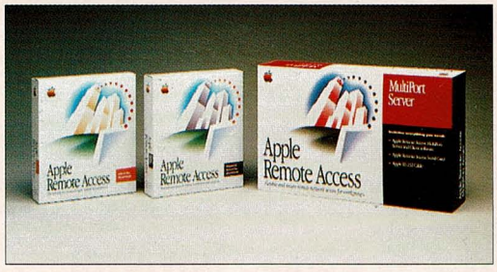
Working away from the office can be a real bonus. Whether its time reduced in travelling, or a quieter atmosphere for that all-important client report, it can really boost your personal productivity.

But sometimes you need urgent access to office based information, e-mail or fax services, whether its the latest budget figures, a fax to your client or even a midnight e-mail to the design department.

That's when you wish you could carry the office network around with you... Well now you can. With **Apple Remote Access™** you can access the office network from wherever there is a phone. Whether at home, mobile, in a client's office or from a hotel bedroom the other side of the world, the office network is always available to you, making it easier to work together as part of a team, even when in completely different time zones!

Of course, office networks hold vital company information. You don't want just anyone hacking into your systems, least of all your competitors. So **Apple Remote Access** provides full multi-level security for all your network systems but, as with all Apple products, easy use and clarity are assured.

Apple Remote Access allows you to work remotely with office systems in exactly the same friendly, intuitive manner as on your office-based computers, any time of the day or night. And calling in from foreign locations is easy too. **Apple Remote Access** has an integrated **Dial Assist** feature that takes the effort out of dialling in from anywhere in the world.



So next time you're out of the office and urgently need that vital information...

Apple Remote Access

Don't be left high and dry ...

Call Freephone 0800 127753 (9am-6pm) for more information

Apple Computer

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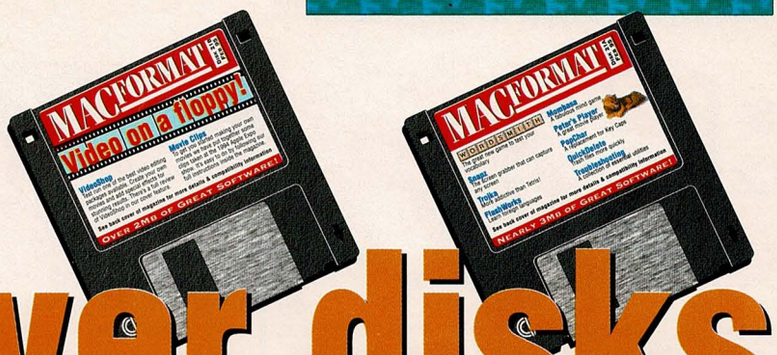
Your cover disks



With nearly 5Mb of great software on MACFORMAT's cover disks this month, we really do have something for everyone. Derek Smith tells all...

You'll have noticed by now that there are two disks on the front of MACFORMAT this month. That's an increase of 100% in real terms over the last economic period. We've got so much useful software for you that we simply couldn't fit it on to the one disk.

START HERE

A high density floppy disk can contain about 1.4 megabytes of software, but we want to bring you as much as possible every month. Therefore, we use compression programs to reduce the files in size so we can fit more on – this month there's nearly five megabytes worth. Unfortunately, this means you can't use the programs straight off the disk. You must install them on your hard disk first.

Doing this is very simple. Just double-click on the floppy disk icon, then double-click on the MACFORMAT 21 icon. A copyright message appears. Click **Continue**. A box then appears that asks you where you want to save the contents of the disk. Choose the place on your hard disk where you want everything stored and click **Save**. After a couple of minutes or so of frantic disk activity, the files will be stored on your hard disk.

Before you install the cover disk we recommend that you back up any important work on your hard disk. This sensible precaution will avoid problems should any software not be compatible with your setup. We make every effort to check our disks for compatibility and viruses, but the information here is intended as a guide only, and MACFORMAT cannot be held responsible for any damage to data, any inability to use this software or any consequential losses. So please, for your own sake, back up first.

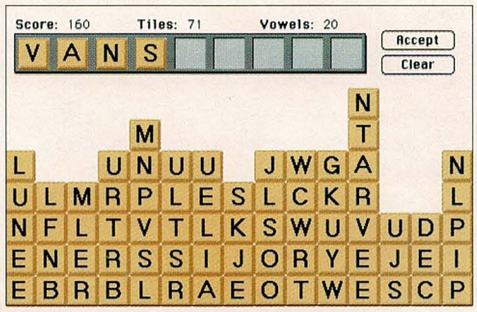
WordSmith

Word game
Requires: any Mac with 1Mb of free RAM.

This is a solitaire *Scrabble* game. The challenge is to stretch your vocabulary and beat your own high score. In *Scrabble* style, you have to create the longest word possible from 15 columns of random tiles.

You can only use the tile on the top of each stack, and the easiest way to move a tile to the rack is to double-click on it. Once you've spelled a word, click **Accept**, and the game will see if your word is in its dictionary. If not, you can try again or add it to the dictionary.

The longer the word you spell, the more points you get. If you cannot spell a word with the available letters, you can take a tile off the rack and get a new one from the stack, but doing this will lose you ten points.



Test your vocabulary with *WordSmith*. The minimum word length is three letters, but despite that fact, I still managed to spell a couple of words – cat, mat, erm...

FlashWorks

Language Tutor
Requires: any Mac with 500K of free RAM.

In these enlightened days of Euro harmony we insular Brits have to face up to our responsibilities and learn to speak more languages. After all, we'll need to know certain phrases like the German for 'Please don't invade us'.

FlashWorks is very sophisticated and comes complete with words for French, German, Greek, Hebrew and Spanish. But you can also add your own words and phrases.

Trojka 1.0

Arcade Game
Requires: any Mac, System 6.0.4 or later and 500K of free RAM.

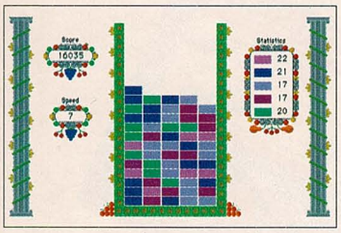
Take *Tetris*, make it more difficult, more tactical, and more compulsive and what you have is

Learning foreign languages is one of those important things that we never do. *FlashWorks* leaves you no excuse.

GETTING YOUR BACK UP

Before you do anything else, you should make a backup of the MACFORMAT cover disk and work only with the backup – just in case anything does happen to go wrong. Make sure the original cover disk is write-protected (move the tab so that you can see through the hole). Then nothing can be written to the disk. After that, follow these simple steps:

1. Insert the MACFORMAT cover disk.
2. Drag the disk's icon over your hard disk's icon. The contents of the cover disk will then be copied into a new folder on your hard disk called 'MACFORMAT 21'. It's still not decompressed, however, so at the moment you can't yet run anything directly.
3. When the copying finishes, drag the cover disk icon into the Wastebasket to eject it.
4. Insert a blank high density disk. Check that it's not write-protected and if need be format it, naming it 'MACFORMAT 21 backup' (or 'Fred' if you want. It doesn't matter).
5. Drag the 'MACFORMAT 21' folder from your hard disk on to the new floppy disk's icon. When it has finished copying, your backup is complete.
6. You can now delete the 'MACFORMAT 21' folder from your hard disk by dragging it across to the Wastebasket, and selecting **Empty Wastebasket** in the **Special** menu.



Trojka is one of the most addictive games that I have ever come across and has caused many an eye-rubbingly late night – you know the sort of thing, just one more game – and three hours later...

Trojka. It looks very much like *Tetris* with a 'well' in the centre of the screen. Rectangular blocks of one of five different colours fall from the top and you guide them left or right as they fall, until they hit the bottom or another block.

The idea is to align three blocks of the same colour in a diagonal or horizontal line. When this happens, the three blocks you have aligned disappear, and any blocks that were above them fall down to fill the gaps.

As the game progresses, the blocks fall faster and you stop blinking because you can't spare the time. Eventually the blocks reach the top of the screen, the game finishes, and your eyes start to bleed. Never mind. Hit **[Command] N**, and it's on with the next game.

Snapz

Screen grabber
Requires: any Mac with System 6.0.7 or later.

It is often very useful to be able to take a screen-shot, especially if you're creating printed instructions which involve lots of intricate detail. Your Mac has a built-in screen grabber, which is activated by pressing **[Command] [Shift]** and **3**. Unfortunately this may not work with all your applications, especially games, and this in-built program has very few options.

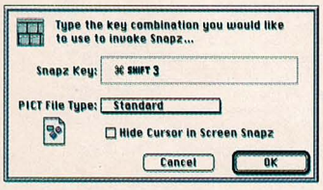
You may also have trouble with an application that uses **[Command]**, **[Shift]** or **3** for something else. *Snapz* is the most reliable screen grabber MACFORMAT has come across so far, and we use it to take some of our more tricky screen-shots (*Marathon*, for example, which you will also find on this month's jam-packed MACFORMAT CD-ROM).

Mombasa

Puzzle game
Requires: any Mac and 1.5Mb of RAM.

We featured this game in last month's shareware pages and promptly found an updated colour version on the 'Net. The idea is simple: click on a pair of identical tiles and they both disappear. The catch is they both have to be free to move to the left or right; they cannot be blocked in on both sides. Remove all the tiles and you win. Easy. Well, sort of.

There are several patterns of tiles and backgrounds to choose from, and several different tile-layouts. You can also create your own tile layout to challenge friends, and you can even create your own backgrounds. For full details of the game, choose **About Mombasa** from the **Apple** menu.


Type the key combination you would like to use to invoke Snapz...
Snapz Key: ⌘ SHIFT 3
PICT File Type: Standard
Hide Cursor in Screen Snapz
Cancel
OK

You can choose which keys will take your screen-shot and whether or not to capture the cursor. *Snapz* also enables you to capture menus when they're pulled down.

Peter's Player 1.1

***QuickTime* movie player**
Requires: any Mac with *QuickTime* and 1Mb of free RAM.

What better to go with our desktop video editing disk than a movie player? Well, a free recording studio and a master class from Richard Attenborough would be good, but a movie player comes a close second.

Once you have created your definitive masterpiece with the demo of *VideoShop* (also yours on the MACFORMAT cover disk this month), you can play it back by dragging it on to the *Peter's Player* icon.

Shareware Selection

Various
Requires: See individual Read Me files

To complement the troubleshooting article on page 92, we bring you another collection of troubleshooting shareware, including *MiniGrin*, *UnmountIt*, *UnlockFolder* and *MacErrors*.

PopChar is a utility to give you easier access to all those special text characters – it's like *Key Caps*, but better. Turn to the article on page 62 to see how to get the best out of this program.

We also bring you *QuickDelete*, *Spring Cleaning* and *Mode 32* – a trio of excellent utilities that will make your life happier and far more pleasant – maybe.

VideoShop 2.0 Demo

Desktop video editing
Requires: LC or better, *QuickTime* and 1.4Mb of free RAM.

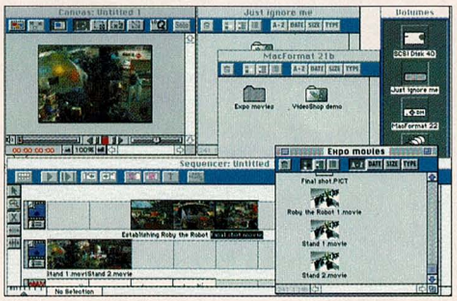
Avid's *VideoShop* is a desktop video editing package aimed at the home user. You can't save your work in this demo, but otherwise you have access to the full program.

When you first open *VideoShop*, there will be a dialogue box welcoming you. Just Click **OK**. The next dialogue box will tell you that it is unable to find the plug-ins folder. Don't worry about that, just click **OK**. And the next dialogue box suggests a canvas of 160 x 120. Again, just click **OK**.

You will now see three windows. The Canvas window is where you can view your movie and control playback. The Sequencer window is where you put the video together. To begin with, you'll see one video and one audio track. The third window shows you the disks you have available, and it's from this window that you can transfer movie clips into *VideoShop*.

The first thing to do is to set up *VideoShop's* preferences. Open **Preferences** from the **File** menu and select **Desktop**. This brings up a Desktop Preferences dialogue box. Click on the **Set plug-ins** folder and you get an Open dialogue box. Move backwards one folder level. (If you're unsure how to do this, see our basics guide on page 90.) Click once on the *VideoShop* demo folder, then click **Select Folder**. Finally, click **OK** to return to the program.

Double click on your hard drive icon in the volumes window to open it. Find the MACFORMAT 21b folder and open that. Open the **Expo Movies** folder, which contains some *QuickTime* movie clips from last year's Apple Expo show. You are now ready to start video editing. For further instructions, there's a walk-through tutorial on page 48.



If you can click and drag, you can edit video in *VideoShop*.

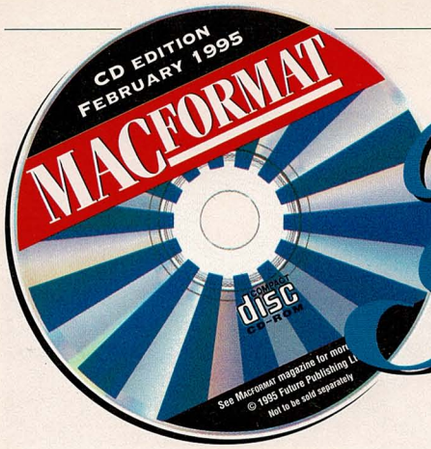
Got a Problem?

If the covermounted high density disk or CD-ROM you have is defective, return it to us and we will replace it. Please make sure you have followed the installation procedures described in these pages correctly, to ensure that there is a physical problem with the disk itself. Otherwise, the replacement will be just the same!

Return HD disks to:
Discopy Labs
PO Box 21
Daventry
NN11 5BU

Return CD-ROMs to:
MACFORMAT CD returns
Future Publishing
FREEPOST (BS4900)
Somerton
Somerset
TA11 6BR

Enclose a self-addressed padded envelope (but we'll pay return postage) with the disk or CD, and a description of the fault. Please do not return disks or CDs to the editorial office; we don't hold stocks of them and can only refer you to the addresses above.



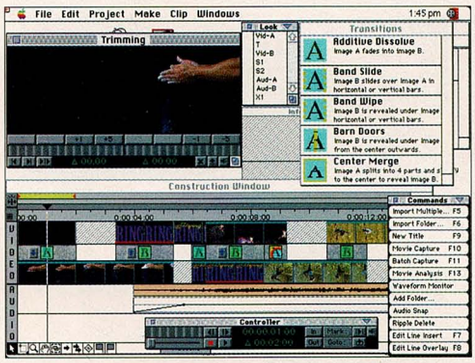
Your CD-ROM

This month we bring you a gorgeous pouting CD-ROM that you'll fall in love with. There's over 600Mb of great software to get stuck into.

There's a distinct flavour of desktop video in the vast CD-ROM soup that is our cover disc this month. As a little aperitif to whet your appetite, here is a list of the folders that you'll find on this month's CD-ROM and the mouth-watering software they contain...

- **Highlights:** this folder contains aliases of the best bits of the CD-ROM and is a good way to get started.
- **Desktop Video:** contains 200Mb of demos, movie clips and utilities for desktop video.
- **MACFORMAT 21:** this folder contains all the software from one of the two floppy disks on this month's magazine. The software from the other one, the *VideoShop* demo, can be found in the Desktop Video folder.
- **Demos:** here you'll find demos of software featured in MACFORMAT.
- **Shareware City:** here you'll find the latest and greatest shareware, hot from the Internet.
- **Shareware in MACFORMAT:** this contains most of the shareware reviewed in the magazine, starting on page 103 (plus a few extras).
- **Reader's Corner:** we get a constant flow of great software from our readership, and here it is for your enjoyment.
- **Back Issues:** a database of all our past reviews in *ClarisWorks* and text format.

Now that we've stimulated your palette with that little taster, lets take a closer look at the feast of software this month...



With *Premiere* you can create your own movies. You won't be directing *Ben Hur* at your first attempt, but you'll have fun.

Premiere 4.0 Demo

Desktop video editing
Requires: LC or better with 4Mb of free RAM; PowerMac native with 6Mb of free RAM. And System 7.0 or later.

To complement this month's feature about desktop video (see page 41), we bring you a save-disabled version of the industry-standard editing package, Adobe *Premiere*.

When you open *Premiere 4.0*, a dialogue box will ask you which presentation size you want. Choose Presentation 160 x 120. You can then access clips by selecting **Import** from the **File** menu, and selecting either **File** or **Project**. For more details see the walk-through on page 48.

MACFORMAT has created a little interactive example of desktop video. In the Desktop Video folder is another folder named Apple Expo '94. Inside you'll see a file named 'The Apple Expo Show'. Open it to see the presentation that was created with *Premiere* and *Astound*. If you missed the show, here's your chance to see and hear what happened. If you were there, you can relive those Expo moments.

Global Warming

***QuickTime* Movie**
Requires: any colour Mac and *QuickTime*.

To show you just what is possible with *Premiere* we've included a video made for Greenpeace by a British company called Spin Two. With a great sound track, this is six minutes of fast moving, effect-studded *QuickTime* movie.

There are several ways that you can view *Global Warming*. If you double-click on the file, it will open in *Premiere*, or you can drag and drop it on to *Peter's Player*. The original film was produced for PAL television and output to

The inclusion of a Greenpeace video in no way reflects the politics of MACFORMAT. Personally I think there is no sport more noble than hunting cuddly seals with a baseball bat in your hand. Tally ho!

video tape. However, it was around 1,000Mb in size, so this version is just a touch smaller.

Marathon Demo

3D action game
Requires: LCIII or better, 3Mb of free RAM, 256 colour monitor and System 6.0.5 or later. PowerMac native.

This is quite simply the best game I've seen on a Mac. You view the game from a first-person perspective like *Sensory Overload* and *Wolfenstein*. But this is much better. To get the best speed out of the demo you'll need to copy the entire *Marathon* folder to your hard disk.

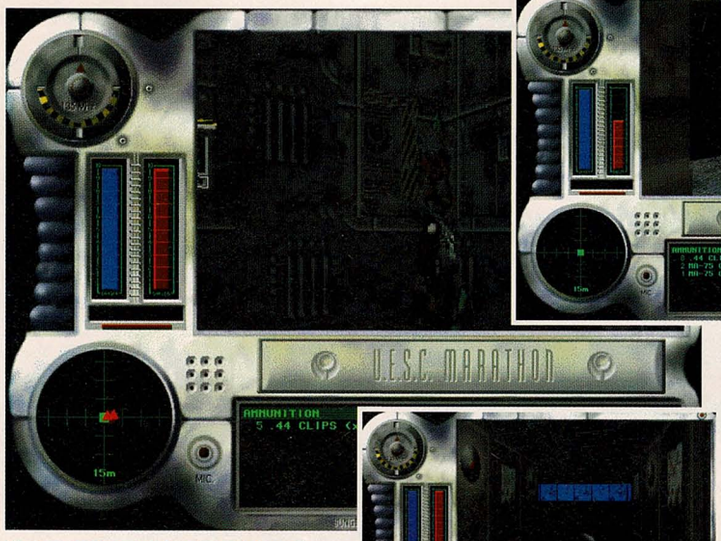
You play a security officer aboard a space ship, which has been over-run by aliens. Your task is to shoot them. Not too much subtlety there. You start armed with only a hand gun, but you'll find a better weapon later on.

To see the controls, click **Preferences** on the main screen, then click on **Setup Keys**. You can change the difficulty setting from the main screen. There are three levels in this demo (despite what the Read Me says), and if you have access to a network, you can enjoy a two player game. For more details contact Bungie Software in the US on 0101 312 563 6200.

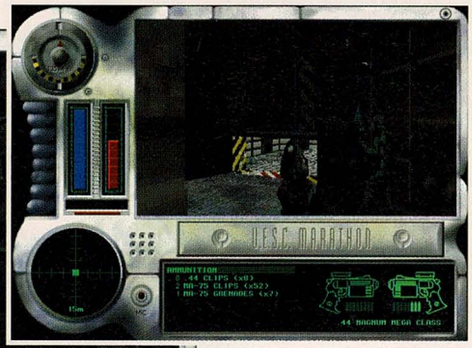
Ghosts Demo

Supernatural encyclopedia
Requires: any colour Mac with 4 Mb of RAM, System 6.0.7 or later, a 13-inch monitor or larger and a double-speed CD drive.

Ghosts, reviewed on page 72, is a collection of tales and details about the supernatural world.



You can angle your view up and down in this demo of *Marathon*, which you will need to do to shoot some aliens. But what's that to his left?



The motion detector in the bottom left-hand corner is vital to your survival, but beware sneaky aliens who stand still.

There's a high ledge that you have to get on to, which seems impossible. I won't give you the answer, but keep trying. It is possible.

Stonehenge poses one of the greatest mysteries faced by mankind. Why did those ancient druids paint it that colour?

Christopher Lee is your host on a tour around a very unusual house. This interactive demo is mouse driven, so all you need to do is click on something to investigate it further. When the mouse pointer turns into a magnifying glass with a minus sign in it, you can click the mouse button to go back one screen. You'll have to get a mouse extension cable though – you might want to hide behind the sofa.

Warplanes Demo

Aircraft encyclopedia
Requires: LCII or better, with 4Mb of RAM and System 7 or later; or PowerMac with 8Mb or RAM and System 7.1.2 or later. Either Mac needs a 13-inch, 256-colour monitor and a CD-ROM drive.

I've loved jet aircraft ever since I lived in Norfolk and watched the American pilots flying incredibly low. I have never worked out whether they were testing their skill or were lost and trying to read the road signs. Whatever, this demo gives you a sample of the full program, concentrating mainly on the Navy's pride and joy, the FA-18 Hornet.

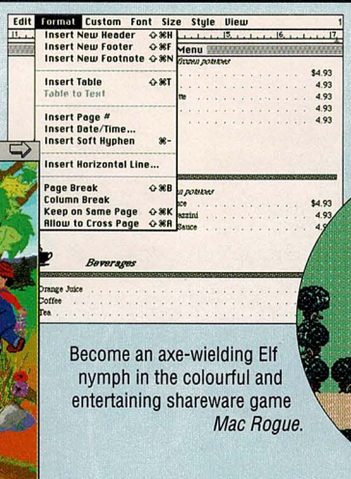
As well as getting plenty of technical details and facts, you can rotate the plane around to view it from any angle. There is also some data

TOO MANY TO MENTION...

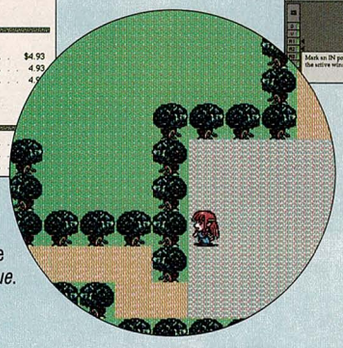
The CD is stuffed full of great software as always. We can't possibly hope to cover it all on these pages, so here are some of the best of the rest.

To stop that rabbit hopping about, catch him, click on him, and leave him sitting with his ears twitching.

Storybook is designed for children aged between 4 and 11, to stimulate their reading and interest in words.



Compare *Nisus Writer* to *WriteNow* with our save disabled version of *WriteNow 4*.



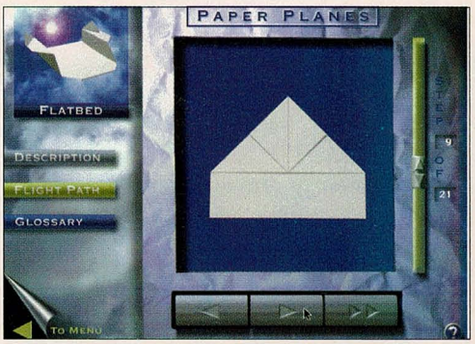
Become an axe-wielding Elf nymph in the colourful and entertaining shareware game *Mac Rogue*.

View the delights of *Media Suite Pro* from Avid, another desktop video editing program from the makers of *VideoShop*.

A complete database of CD-ROM products available for the Mac, along with screenshots.

Apart from pictures of planes, *Warplane* features diagrams and cut-aways such as this one of an FA-18 engine.

Kids will love playing with Oslo and all his games, providing they can get their parents away from the screen.



A multimedia CD about how to make paper planes may sound strange, but this is an essential CD for any school.

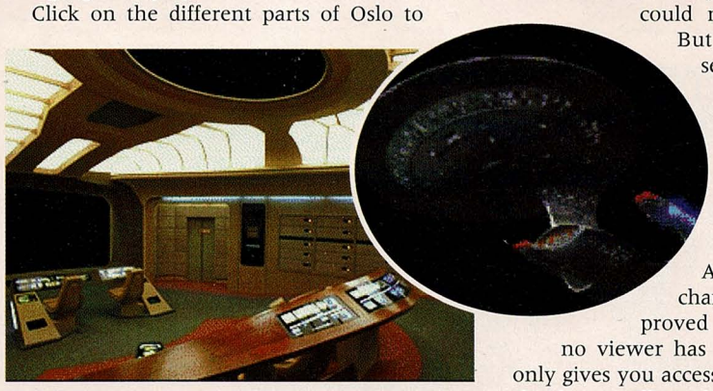
on the Gulf War and plenty of full colour pictures. *Warplanes* is reviewed on page 72.

Adventures with Oslo Demo

Children's fun
Requires: LC or better, 2Mb free RAM and a 256-colour monitor.

This is an enchanting demo from an American company that produces fun science programs. Oslo is the computer equivalent of those children's toys that have all those buttons to press and gadgets to play with.

Click on the different parts of Oslo to sample many of his functions. My favourite is the maze section where you guide a ball around a crazy maze course, only to end up back at the beginning. We hope to bring you a review when the program is finished.



Take a leap of the imagination and journey aboard the Starship Enterprise in this interactive demo.

Star Trek Manual Demo

Interactive Manual
Requires: LCII or better and a 256 colour monitor.

When *Star Trek: The Next Generation* was announced, many people thought that it could never match the original. But when we saw the wobbly sets and the unconvincing aliens, we knew it was another winner.

We reviewed this *Star Trek Technical Manual* in MACFORMAT 20 and it was awarded 92% and a MACFORMAT Classic Award. And now you too have the chance to explore the new improved Enterprise and peek where no viewer has peeked before. This demo only gives you access to a couple of areas of the ship but you'll get the idea. Just as in *Warplanes* you can view the ship from the outside as well, and turn it around to view it from different angles. Ideal for Trek-heads every where.

Paper Planes Demo

Aerodynamic origami
Requires: 1Mb of free RAM and a 256-colour 14-inch monitor.

Everyone loves making paper planes and seeing if they can hit the sleeping cat from 30 feet away. But if you want to improve your darts, then you're going to have to get serious.

Paper Planes is the definitive work on how to build them. The demo contains just one design of dart and you are taken through its manufacture in a very clear *Blue Peter* style. There are even details of how to hold and throw the dart for maximum effect.

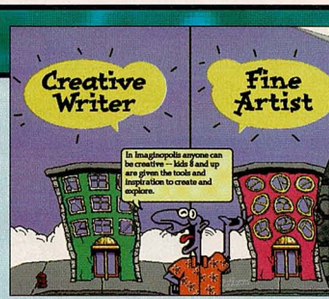
Reader's Corner

Your programs
Requires: see individual Read Me files

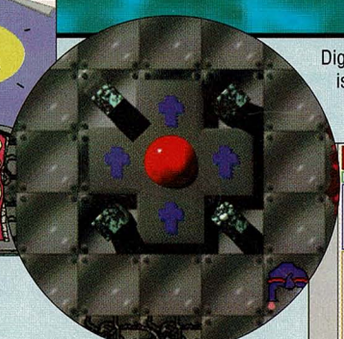
I'm amazed at the quantity and quality of the software that crosses my desk from readers. Cyber TV is a new type of CD product being produced by a Scottish company and we're happy to do our bit to promote their work.

Damon Creed has sent in some terrific icons, and of real interest is his Read Me file, which shows exactly how he did them. Tim Plumb has also sent in some superb folder icons.

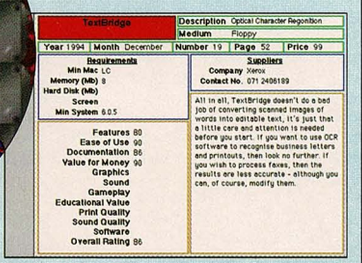
Daniel Clav had a game called *BeeBop* on the MACFORMAT 14 CD, and here's the sequel, called *BeeBop 2*, what else? *HyperCard* stacks are always popular and we've had plenty from David Wilson, and Mr Pickford from Chester College of Higher Education. Martin McDonald, a regular on the CD-ROM, has also sent in a variety of *HyerCard* stacks and utilities.


PARENTS' CORNER
Creative Writer
Fine Artist
In Imaginopolis anyone can be creative – kids 8 and up are given the tools and inspiration to create and explore.

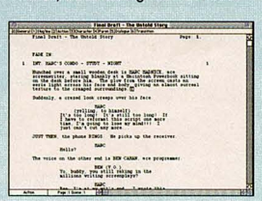
Take a look at two excellent products from Microsoft, *Fine Artist* and *Creative Writer*, both designed for kids.



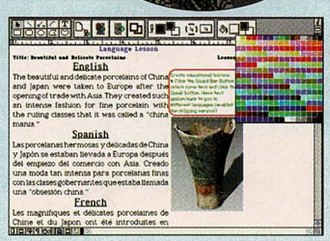
Digital Messiah has reached version 2 and is absolutely brilliant. Take a look in the shareware games folder for it.



Get up to date with the latest database of all the reviews that MACFORMAT has published since the first issue.

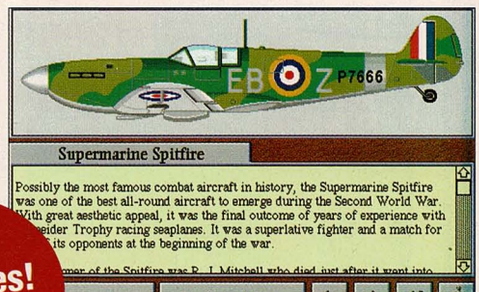


Ever seen a film and thought you could do better? Try this!



Is *Nisus Writer* the best word processor available? We use at MACFORMAT and now you can try it.

Over 4,000 files! Over 600Mb


EB Z P7666
Supermarine Spitfire
Possibly the most famous combat aircraft in history, the Supermarine Spitfire was one of the best all-round aircraft to emerge during the Second World War. With great aesthetic appeal, it was the final outcome of years of experience with
its opponents at the beginning of the war.
Contents
Technical Data

Tore Sorensen has created a *HyperCard* stack featuring planes from World War 2.

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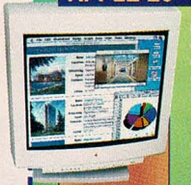

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P/MAC 7100/66DL

TOP CW VALUE!

The Power Macintosh 7100/66 DL is Apple's mid-range Power Mac and offers increased RAM capacity, NuBus expansion and faster processor and (optional) dual monitor support over the 6100/60. In addition it features a 66Mhz version of the RISC PowerPC 601 chip with 32K on-chip cache.
- 66Mhz 601 with 32k on-chip cache
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- Internal 5.25" bay for optional CD
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- Enhanced SCSI data bus

CW RECOMMENDED

Pictured with optional 15" multiple scan monitor

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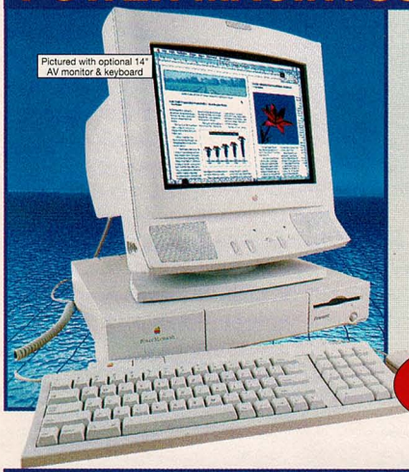
POWER MACINTOSH 6100/60



Pictured with optional 14" AV monitor & keyboard

If you want to run complex graphics, dtp, word processing, database or spreadsheet applications at breakneck speed then look no further than this stunning Special Deal from CW's handy Warehouse.
- 60Mhz Motorola PowerPC601 RISC processor
- Math co-processor built-in ■ Built-in color support to 21"
- Ethernet high speed networking as standard
- 8Mb RAM on board, expandable to 72Mb
- Internal 250Mb SCSI Hard drive fitted
- NuBus/PDS expansion slot ■ Internal 5.25" bay for CD-ROM drive
- High-speed SCSI bus for faster data transfer
- **Normal price £1199 - SAVE £100 when you purchase a 6100/66 with any 14", 17" or 20" Apple monitor!**

OFFER LIMITED 1ST COME 1ST SERVED

P/MAC 6100/60 8Mb RAM 250Mb DRIVE
6100/60 FROM ONLY £1099 £1291 inc VAT
PRICE FOR CPU ONLY WHEN PURCHASED WITH APPLE MONITOR

POWER MACINTOSH 8100/80

110Mhz 8100 NOW AVAILABLE AT CW!
16Mb RAM 2 Gig DRIVE + CD-ROM
£4149 £4875 inc VAT

Apple's most powerful desktop computer and a CW 'Best Buy' for all those users who need maximum power and productivity from their Macintosh.The superb 8100 features an 80Mhz Power PC 601 processor with 32K on-chip cache and 256K memory cache to make mincemeat out of the most demanding applications. Expansion is awe-inspiring with 3 NuBus slots, 5 internal storage bays and capacity to use up to 264Mb of RAM.
- 80Mhz 601 with 32K on-chip cache
- 256K memory cache (makes all the difference!!)
- 3 NuBus slots for plenty of expansion ■ Ethernet
- Internal 5.25" bay for optional CD (total 5 bays)
- Dual monitor support ■ 8Mb RAM, exp to 136Mb
- Enhanced SCSI for faster data transfer

Pictured with optional 17" monitor CD & keyboard

CW RECOMMENDED

P/MAC 8100/80 8Mb RAM 250Mb DRIVE
8100/80 FROM ONLY £2299 £2701 inc VAT
CPU ONLY. PRICE EXCLUDES MONITOR AND KEYBOARD

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630 8/250
APPLE KEYBOARD
14" PERF+ COL. MON
£899
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The Home Of Multimedia Macintosh!

SAVE MACINTOSH 630

Shown with optional 14" RGB Monitor & CD-ROM

IT MATCHES A QUADRA 800'S CLOCK SPEED, YET CW OFFERS IT FOR LESS THAN £750!!

With performance for most applications matching a Quadra 800 this CW recommended Mac is an absolute POWERHOUSE of a computer. And when you consider that it's also the most advanced CD-ROM equipped multimedia Mac that can display TV pictures, play audio CDs and record QuickTime movies the Macintosh 630 is absolutely unbeatable!

Just look at what CW offers you..

- 66/33Mhz 68LC040 processor - the clock speed of a Macintosh Quadra 800!
- 8Mb RAM (Expandable to 36Mb) ■ 250Mb Hard Drive ■ Optional CD-ROM
- 3 expansion slots ■ Support for 1,000s of colours (16-bit
- Optional TV Tuner (Allows full screen TV or TV in window operation)
- Video support for 15" monitors (Check out the new 15" multiscan with stereo speakers - it's ideal for multimedia!)
- Optional infra-red control of CD-ROM drive & NICAM stereo TV tuner (If fitted)
- Dual Hard Drive I/O (internal IDE, external SCSI)
- Optional Video IN for recording video clips from VCR!
- **CW's price includes Apple Extended keyboard & mouse!**

CHOOSE YOUR MAC 630 CONFIGURATION

630 8/250 TV
+ Keyboard + 14" Performa + display + Tv Tuner/Video In + Avid VideoShop .. **£1099**

630 8/250 CD TV
+ Keyboard + 14" Performa + display + Tv Tuner/Video In + Avid VideoShop + Claris Works 2.1 + Built-in CD-ROM Drive **£1249**

630 8/250 CD TV
+ Keyboard + 15" Multi-scan display + Tv Tuner/Video In + Avid VideoShop + Claris Works 2.1 + Built-in CD-ROM Drive **£1299**

ALL ABOVE PRICES EXCLUDE VAT

MACINTOSH 630 8/250 + KEYBOARD

LIMITED STOCKS ONLY **£749**

£880 inc VAT

EX.VAT. DOES NOT INCLUDE CD-ROM OR MONITOR

SUPER ALL-IN-ONE 630 CD/TV WITH 14" MONITOR & KEYB.

ALL INCLUDED IN THE £1249 PRICE!!

This package is all you need to create movies, watch TV, play audio CD's, write letters, create spreadsheets, draw pictures, organise data and all in glorious colour. With the built-in TV Tuner you can watch you favourite TV programs and with the FREE VideoShop software you can capture video clips and build QuickTime movies - complete with amazing cinema effects & titles!! This amazing package includes EVERYTHING!

■ Macintosh 630 with 8Mb RAM ■ 250Mb hard Drive ■ CD-ROM drive ■ Mouse ■ TV tuner ■ Video In ■ Infra red remote control ■ Apple Design Keyboard ■ High quality 14" Performa Plus colour display ■ Claris Works 2.1 integrated software ■ Avid Video Shop movie editor for editing your video clips captured from VCR or Camcorder - Play director and create stunning movies!!

IT'S ALL HERE - NOTHING ELSE NEEDED!!

630 8/250 CD + TV + KEYBOARD + 14" COL.

PLUS OVER £300* OF FREE SOFTWARE **£1249**

Ex VAT £1467 inc VAT

EX.VAT. INCLUDES CD, TV TUNER, VIDEO IN MONITOR & KEYBOARD

*Total estimated retail price of free software

MACINTOSH 460

Shown with optional 14" RGB Monitor & keyboard

THE LOW-COST HIGH VALUE MAC!

The superb Macintosh 460 features a zippy Motorola 68030 processor running at 33Mhz which makes it the machine of choice for general business, education and home entertainment tasks.

- 33Mhz 68030 - fast as a Macintosh IIvx!
- 4Mb of on-board RAM (expandable to 36Mb)
- 160Mb internal hard drive fitted
- LC expansion slot (for accelerators, Ethernet high speed networking etc)
- Colour monitor support to 16"
- Complete with System 7
- Desktop mouse
- **Your low-cost entry into Mac computing!**
- **Add a CD-ROM Drive for £99!!**

MACINTOSH 460 4Mb RAM 160Mb DRIVE

LIMITED CW WINTER SAVER **£499**

£586 inc VAT

EX.VAT. DOES NOT INCLUDE KEYBOARD OR MONITOR

MACINTOSH 475

Shown with optional 14" RGB Monitor & keyboard

ONE OF THE BEST VALUES OF ALL-TIME!!

The entry level 68040 Mac & a real speed demon! Runs at a Quadra 700 matching 25Mhz and is ready to rip through CW's business, office dtp and edutainment tasks with gusto. In this strictly Limited Offer CW can offer this superb machine at near cost price!!

- 25Mhz 68040 processor (as fast as Quadra)
- 4Mb RAM (exp 36Mb) • 250Mb hard drive
- SCSI port for adding CD-ROM etc
- LC expansion slot for adding acceleration
- Upgradable to PowerPC etc
- Colour support to 21"
- Complete with desktop mouse & System 7 operating software
- **LIMITED STOCKS AT THIS PRICE!!**

MACINTOSH 475 4Mb RAM 250Mb DRIVE

LIMITED CW WINTER SAVER **£599**

£704 inc VAT

EX.VAT. DOES NOT INCLUDE KEYBOARD OR MONITOR

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MACINTOSH 475 4/160 KEYBOARD
14" PERFORMA PLUS DISP.
CLARIS WORKS
£799.00

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Certified Digital Audio Editing Systems Specialists

computer warehouse

Authorised Reseller

You Just Can't Argue With CW's Prices

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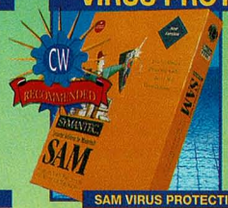
THE VALUE DATABASE

Top value relational database. Use 4D First to automate invoicing, track clients, maintain mailing lists or organise any data.

4D FIRST RELATIONAL DATABASE
NOW FOR POWER MAC! £99.00 EX VAT £117 inc VAT

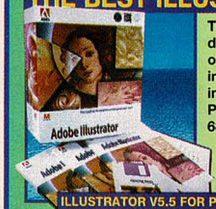
VIRUS PROTECTION



If you think viruses only affect other people, think again. It can and will happen to you sooner or later. CW's recommended protection.

SAM VIRUS PROTECTION (EX UPGRADES)
NOW FOR POWER MAC! £39.00 EX VAT £46 inc VAT

THE BEST ILLUSTRATION



The postscript drawing package of choice. This incredible deal includes 5.5 Power Mac and 680X0 versions + a great CD packed with goodies

ILLUSTRATOR V5.5 FOR PPC & 680X0 MACS
NOW FOR POWER MAC! £279 EX VAT £328 inc VAT

THE BEST OCR AROUND

Fed up with typing - got yourself a scanner? Then why not invest £69 in the best OCR software around and get TextBridge. - Now PPC native!

CW RATED TEXTBRIDGE OCR SOFTWARE
NOW FOR POWER MAC! £69.00 EX VAT £81 inc VAT

WORD PERFECT + FILEMAKER

2 great packages for £200!!
- Word Perfect - powerful word processing
- Filemaker Pro - best selling database
- Limited Offer, Call CW NOW!!

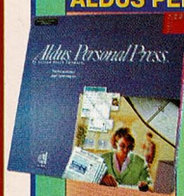
INTEGRATION W. PERFECT + F.MAKER £199 £234 inc VAT

MICROSOFT OFFICE 4.2

Amazing value from Microsoft
- Excel - FULL VERSION
- Word - FULL VERSION
- PowerPoint - FULL VERSION
- Plus Mail and integration software

MICROSOFT OFFICE EXCEL, WORD, POWERPOINT £299 £351 inc VAT

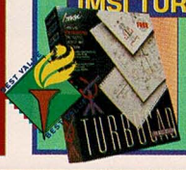
ALDUS PERSONAL PRESS v1



Amazing DTP package
- Great for newsletters, greetings cards, ads, brochures, leaflets etc.
- From the makers of PageMaker
- Best Value!

PERSONAL PRESS ALDUS DTP PACKAGE £29 £35 inc VAT

IMSI TURBOCAD



Great value CAD package
- Design office layout, landscape gardens etc.

TURBOCAD VALUE CAD PACKAGE £69 £81 inc VAT

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With this super-deal from the UK's leading graphics specialists you get a full Adobe Photoshop V3 package AND and KPT TRIX
Version 3 supports multiple layers so you have the freedom to experiment with ease. Subject on one layer, background on another, shadow on another - Move any independently. It's the CW easy way of image manipulation. Also new in v3:
- Superb new layers feature makes for easy image composition
- New lighting effects - apply virtual lights!
- Color range masking
- Gamut warning
- Selective color correction
- Sponge tool • Automatic dust & scratch removal

FREE KPT TRIX CD Packed with power user tips, plug-ins, shareware, art and everything you need to get the best out of Photoshop!!

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Adobe Photoshop
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ADOBE PHOTOSHOP v3 + FREE KPT TRIX
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THE LOWEST XPRESS PRICE!

When it comes to value you just can't beat CW and here's the deals to prove it. Genuine UK supplied Quark Xpress version 3.3 at incredible savings on the rrp prices. Hurry - limited stocks!
- Drag & drop colour & text
- Full CMYK separation
- Object and text rotation to within 0.001°
- Horizontal and vertical text scaling
- EfiColor management
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QUARK XPRESS v3.3 MACINTOSH
LIMITED SUPER SAVER £549 EX VAT £645 inc VAT

QUARK XPRESS v3.3 POWER MACINTOSH
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INKJET FOR LESS THAN £200!!
Advanced inkjet technology delivers 'laser-like' printing at 360dpi and 2 pages per minute.
- 360dpi ink-jet Cannon engine
- Plain paper or envelopes
- 39 TrueType fonts • Apple branded

STYLEWRITER II 360DPI PRINTER
PLUS FREE FUN FONTS £199 EX VAT £234 inc VAT

COLOR STYLEWRITER PRO

360DPI COLOR PRINTER
CMYK A4 color printer.
- ColorSync™ color-matching
- 4 ink cartridges - CMYK
- Tray for 100 sheets of paper
- A real performer - ideal for visuals, presentations and general color work
- CW Recommended!

APPLE COLOR STYLEWRITER PRO
PLUS FREE FUN FONTS £399 EX VAT £468 inc VAT

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The Apple Personal LaserWriter 300 brings you laser quality printing for the price of an inkjet.
Just check these features:
- 300dpi genuine Apple laser quality
- 39 scalable TrueType fonts included
- GrayShare software included
- 4ppm operation
- **FREE Monotype Fun Fonts - packed with over 250 display and picture fonts!**

300DPI PERSONAL LASERWRITER 300
PLUS FREE FUN FONTS £399 EX VAT £469 inc VAT

LASERWRITER PRO 630

"Ideal for large workgroup networks"
Pictured with optional 250 sheet & envelope trays
ENV. + SHEET FEEDER PLUS UNIVERSAL CASSETTE £99 £117 inc VAT

Best value network printer!! 600dpi network laser with Postscript Level 2, PhotoGrade & FinePrint technologies.
- 600dpi laserprinter
- Adobe Postscript Level 2
- High speed Ethernet networking as standard
- Prints to Paper, envelopes, transparencies
- Ideal for graphics
- **Add a 500 sheet feeder with tray & cassette, plus a 2nd universal cassette AND an envelope cassette for an incredibly low £99!!**

APPLE 600DPI LASERWRITER PRO 630
WINTER SUPER SAVER £1199 EX VAT £1409 inc VAT

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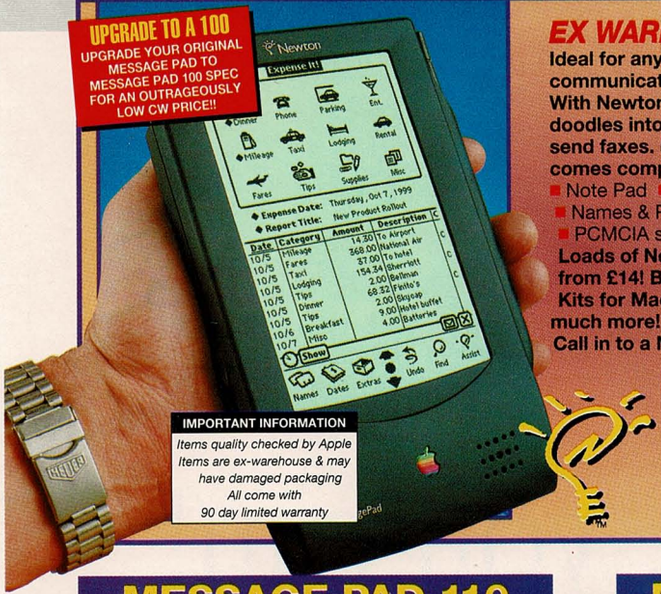
UPGRADE YOUR ORIGINAL MESSAGE PAD TO MESSAGE PAD 100 SPEC FOR AN OUTRAGEOUSLY LOW CW PRICE!!



EX WAREHOUSE MESSAGE PADS

Ideal for anyone who needs to gather, organise and communicate information. And at LESS THAN £100! With Newton you can organise your life, take notes, turn doodles into drawings, format and print letters, - even send faxes. (Requires Comms System). Each unit comes complete with a 90 day limited warranty.

- Note Pad
- To-do List
- Names & Phonebook File
- PCMCIA slot
- Weighs only 1 pound.

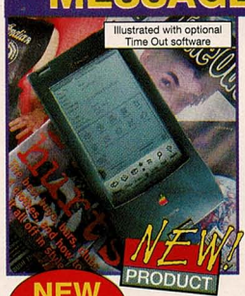
Loads of Newton accessories in stock and ready to go from £14! Batteries, masses of Software, Connection Kits for Macintosh & Windows, Carry Cases, Cards & much more!

Call in to a Newton Superstore today!!

IMPORTANT INFORMATION
Items quality checked by Apple
Items are ex-warehouse & may have damaged packaging
All come with 90 day limited warranty

NEWTON MESSAGE PAD
LIMITED OFFER SUPER SAVER £99
£117 inc VAT
EX WAREHOUSE STOCK. MAY HAVE DAMAGED PACKAGING

MESSAGE PAD 110



NEW & BOXED WITH FULL 1 YEAR WARRANTY!

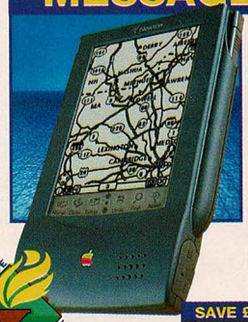
NEWTON MESSAGE PAD 110

More than 3 times the memory space and twice the battery space of the original. Can connect with your Apple Macintosh™ computer or Windows-based PC (with optional Newton Connection Kit)

- 20MHz ARM 610 processor
- 1MB RAM, 4MB ROM
- LocalTalk™ compatible
- Exchange data with Mac computer or PC
- Group 3 Fax compatible

NEWTON MESSAGE PAD 110
LIMITED SUPER SAVER £399
EX VAT £469 inc VAT

MESSAGE PAD 100



BEST VALUE

MESSAGE PAD 100

New 'intelligent' companion to help organise your life! And now on an incredible pre-Christmas deal from CW!

- ARM 610 processor running at 20Mhz
- Large-screen reflective LCD display • 4Mb ROM
- 640K RAM
- Built-in LocalTalk port
- PCMCIA slot
- Infra-red transceiver

Hurry CW on has limited stocks of this super-deal!

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SAVE £200 ON MESSAGE PAD 100!
WINTER SUPER SAVER £169
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Leather Carry Case For Message Pad & 100	£34
Leather Carry Case For Message Pad 110	£44
Battery Pack Re-Charger For Message Pad	£29
Re-Charger Cradle & AC Adaptor For 110	£44
1MB Storage Card For 110 & 100	£49
2MB Storage Card For 110 & 100	£99
Connection Kit For Macintosh v1	£59
Connection Kit For Windows 110 & 100	£59
Ni-Cad Battery Pack For Message Pad & 100	£14
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COMMS SYSTEM

MESSAGE PAD + FAX-MODEM SUPER-LOW PRICE!!

This superb Computer Warehouse bundle gives you a Message Pad and Fax/Data modem all in one package.
Send faxes, hook up to on-line services and communicate with business colleges and friends the world over!

- Newton Message Pad
- Fax Fax/Data send and receive modem
- **Ex Warehouse - May have damaged packaging**
- **CW recommended**

NEWTON COMMUNICATIONS SYSTEM
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TWO SUPER CW STORES

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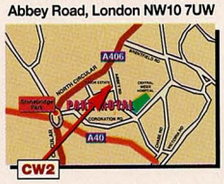
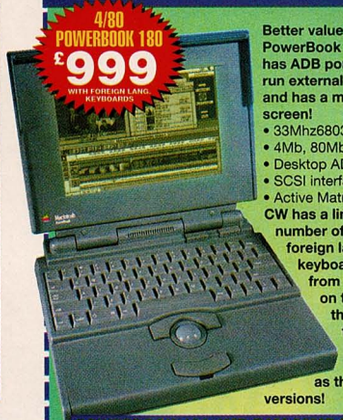


BEST VALUE POWER BOOKS



4/80 POWERBOOK 180 £999 WITH FOREIGN LANG. KEYBOARDS

Better value than a PowerBook 150. - 180 has ADB ports, can run external monitor and has a much better screen!

- 33Mhz68030
- 4Mb, 80Mb Drive
- Desktop ADB ports
- SCSI interface
- Active Matrix display

CW has a limited number of 180s with foreign language keyboards. Apart from the legend on the keys they function exactly the same as the UK versions!

POWERBOOK 180 4MB RAM 80MB H.DRIVE
ONLY A FEW LEFT £1099
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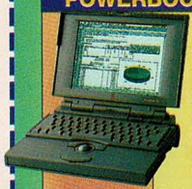
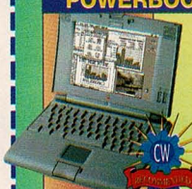
POWERBOOK 150



- 33Mhz 68030 processor
- 640 x 480 pixel grey screen
- SCSI interface
- 4Mb RAM memory
- 120Mb Drive
- **Free Claris Works**

POWERBOOK 520 4mb RAM 160Mb H. DRIVE £939
£1103 inc VAT

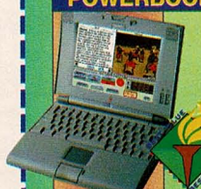
POWERBOOK 520



- 25/50Mhz '040 • Ethernet
- Trackpad • Greyscale display
- 4Mb RAM - exp to 36Mb
- 160Mb drive
- Direct color out to 16"

POWERBOOK 520 4mb RAM 160Mb H. DRIVE £1499
£1761 inc VAT

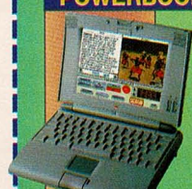
POWERBOOK 520C



- 25/50Mhz '040 • Ethernet
- New Trackpad
- Dual Scan 256 color display
- Direct color out to 16"
- PDS slot

POWERBOOK 520C 4mb RAM 160Mb H. DRIVE £1939
£2278 inc VAT

POWERBOOK 540C



- 33/66Mhz '040 • Ethernet
- New Trackpad control
- Active Matrix color display
- 4Mb RAM • 320Mb drive
- Direct color out to 16"
- PDS slot
- **CW BEST**

POWERBOOK 540C 4mb RAM 320Mb H. DRIVE £3199
£3759 inc VAT

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Which other 24-Bit Desktop Colour Scanner...

Scans at up to 1200dpi, comes with both EasyReader™ OCR (Optical Character Recognition) Software and ColorStation Pro LE-E™ RGB Image Manipulation Software (with Photoshop™ plug-in compatibility), is supplied ready for use - complete with a SCSI cable and terminator, allows you to scan in modes of 16.7 million colours - lineart - halftones - 256 greyscales, incorporates a document feeder (for suitable paper types), includes its own dust cover and... Costs so Little?

You get more £ for £ value with a Sicos™ than any other A4 colour scanner for your Macintosh™!

With the Sicos Desktop Colour Scanner you will...

Scan at superior speeds to flatbed scanners, use a minimum of your valuable desktop space with its small footprint of little more than an A4 sheet of paper, automatically input text from documents to save you having to re-type them, place mono or colour photographs on your Mac screen and add a myriad of effects with its image manipulation software, transfer scanned text or photos into your other programs and lots more... Why not call in and see the new Sicos™ for yourself, or... order today by simply telephoning 01 773 836781

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SICOS® Colour Desktop Scanners

System requirements: Apple™ Macintosh™ with a min. of 4Mb RAM and 10Mb. of free disk space operating on System 6.0.4 or higher and a SCSI bus with one free device plus a colour monitor with a minimum control panel setting of 256 colours capability.

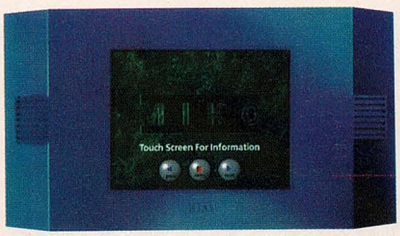
All Trademarks recognised.

Multimedia takes on extra dimensions, and an exciting optical character system is previewed. By Richard Hill.

Apple's new media vision

Apple is forging links with other companies to get the Mac talking to machines that aren't computers. Your Mac could be at the heart of an interlinked network of technology, redefining the way you use it. Super-fast networks that any machine could join and interactive TV are just some of the areas the Mac is becoming part of.

We think of multimedia as a cross between text, graphics, sound and video taking place on a Mac – but now it's looking in new directions. Multimedia is set to become more a part of our everyday lives than ever, and Apple wants the Mac to lead the way. Computing, TV, telephones, photography and publishing – all these and more will become interconnected. An example of this is Apple's plan to enable its *QuickTime* video player software to understand MIDI (Musical Instrument Digital Interface) files. MIDI files will be familiar to you if you're involved in music, as they are the standard way of making sure computer and electronic instruments can exchange information. Getting music into your multimedia work will be much simpler than it has ever been.



Echoing this spirit of communication, Apple is talking with companies throughout the world. It's developing new ideas with firms including Sony, IBM, AT&T, and Texas Instruments, and the first of these will appear later this year.

Who will be the winners and losers of the multimedia revolution? See MacroScope, page 25.

Interactive TV

Mac technology is coming to TV – giving you interactive television. BT (British Telecom) is connecting a number of homes in Ipswich as part of its tests to see how people can use services like home shopping, video on demand (choosing a movie to watch whenever you like, not when it's scheduled for) and home banking through their TV. Apple's making the set-top boxes that hook up to the TVs, meaning you will have the benefit of making your choices in a similar, icon-based way to using your Mac.

FireWire

FireWire is a networking system enabling Macs to be linked together and communicate very quickly. It's along the same lines as LocalTalk or Ethernet but it sends data much faster. Connect a CD-ROM drive to your Mac with FireWire, and you'll have no more of those incidents of your *QuickTime* movie freezing momentarily because the cable can't transmit it fast enough.

Apple is talking to companies including Sony about fitting FireWire sockets to equipment like video recorders and cameras, meaning you'll be able to send video into your Mac instantly.

Versit

A new partnership between companies including Apple, IBM and AT&T (one of the giant American equivalents of BT) plans to make it easier for machines to talk to each other. It is setting standard ways of computerised communication, meaning computers, telephones and other devices can exchange information without fuss. As a result, the Mac and the telephone will be able to work closely together – and other methods like wireless communication will become possible. Imagine a PowerBook sending details of your name and address to another nearby Versit device via infrared light – just like using a remote control. A recognised format for a computerised business card has been agreed, meaning this can soon be reality.

MIKO

These Macs won't be in your homes at all, but you could be passing them on the street. 'Mac Inside, King Outside' is the rather coy acronym for a range of devices from Canadian firm King Products. These use the same Mac technology as Apple's portable PowerBooks in streamlined display booths. MIKO can be installed in areas like shopping malls or museums to show presentations you can watch, or control with the

Shopping malls and trade shows alike can play host to MIKO, which uses a Mac to show interactive guides and promotions.

APPLE BYTES

Apple acts on shortages

Apple is to build a new manufacturing plant for Macs in California. This should mean it'll soon be easier to buy a Mac without the annoying wait that some people have had to put up with.

Programming made easy

Even more programs should be appearing on the Mac, thanks to a new programmers' tool from Microsoft. The *Visual C++ Cross-Development Edition* for the Macintosh enables software developers who've written programs for the PC to translate them across to the Mac easily. With only a little extra programming needed in some cases, the program is ready to run under System 7. Companies who have lost out by failing to produce Mac versions of their software now have no excuse. Microsoft says future versions of the *Cross-Development Edition* will be able to create PowerMac versions of the software, as well as versions for the new PowerPC computer that Apple, IBM and Motorola are working on (see MACFORMAT 20's main story).

Word rules

The Microsoft *Word* program has become the best-selling word processor ever, according to the company. It claims 19 million people around the world are now using the program, compared to the 17 million using *WordPerfect*, its main rival.

Graphic offers

To encourage you to try its accelerator for Adobe *Photoshop*, Radius is offering a money-back guarantee. If you buy *PhotoEngine* before the end of January – it costs £1,291.33 – you can return it within 30 days and receive a full refund if you're not happy with it. The board uses four powerful Digital Signal Processor chips to slice the time taken by demanding tasks like rotating and converting images. For more details call Computers Unlimited on 081 200 8282.

Radius is also consolidating its recent merger with SuperMac by extending its customer support guarantee to any SuperMac product bought after Thursday 1 September last year. If your card or monitor is still under its one-year guarantee and breaks down, Radius will come round to replace it within two days of your call. Radius can be contacted on 0483 772773.

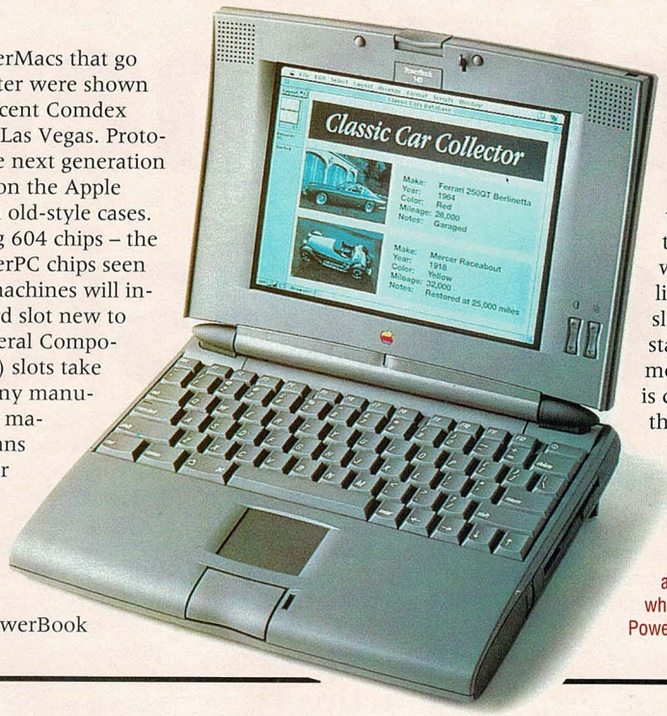
Star Trek update

ABLAC Learning Works has raised the price of the *Star Trek Interactive Technical Manual*, reviewed in MACFORMAT 20, to £49.95. ABLAC can be contacted on 0626 332233.

PowerMacs raise the tempo

New PowerMacs that go even faster were shown at the recent Comdex show in Las Vegas. Prototypes of two of the next generation PowerMacs were on the Apple stand, disguised in old-style cases. As well as running 604 chips – the fastest of the PowerPC chips seen so far – the new machines will include a type of card slot new to Macs. PCI (Peripheral Component Interconnect) slots take cards made by many manufacturers for other machines, which means you'll have a wider choice of cards to boost your Mac's video, storage and networking abilities.

The portable PowerBook range is also going PowerMac in the summer. The new souped up PowerBooks will use a beefed-up version of the 603 chip, which is the successor to the current 601 chip. It will also be slimmer and lighter and will include slots that take a more standard form of card for modems and networks than is currently used. Around the same time, there'll be a card that upgrades any of the PowerBook 500 series to PowerMac speed.



From the summer, PowerBooks are going to be PowerMacs, but what is Apple going to call them – PowerPowerBooks?

CD-ROM puts on its dancing shoes

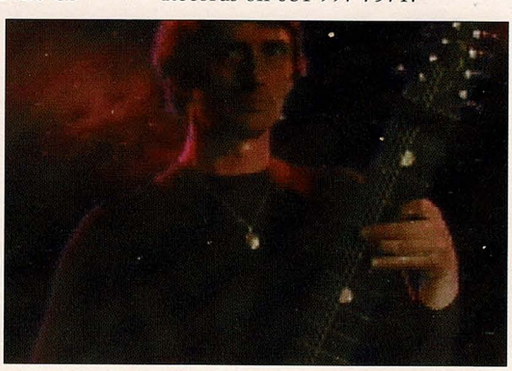
You'll soon be able to use the same disc on both your Mac and your hi-fi thanks to a new CD format. With the new format – likely to be called CD Plus – whichever machine you're using will automatically use the appropriate part of the disc.

The potential of CD-ROM has attracted musicians like Peter Gabriel into making their music interactive. The new format should encourage more musicians to explore CD-ROM, and Apple is encouraging them further by offering support and information through a campaign called the Interactive Music Developers Programme.

Meanwhile, Mike Oldfield's latest album *The Songs Of Distant Earth* comes in a limited edition format that includes some CD-ROM material. It isn't using CD Plus, but still shows the interest of the idea within the music industry. Each copy includes an offer to see the CD-ROM demonstrated on a Mac at a local dealer and a competition to win a Macintosh.

Other CD-ROMs, like the Residents' new *Gingerbread Man* (which is reviewed on page 72), also use this older hybrid format, which relies on your co-operation. If you play the first track, which is CD-ROM material, on a hi-fi, you hear lots of static – and you risk damaging your hi-fi's speakers.

If you want more details on Mike Oldfield's CD, contact WEA Records on 081 997 7571.



Musicians like Mike Oldfield are combining their music with CD-ROM, and Apple's making it easier for them to do it.

Instant Internet!

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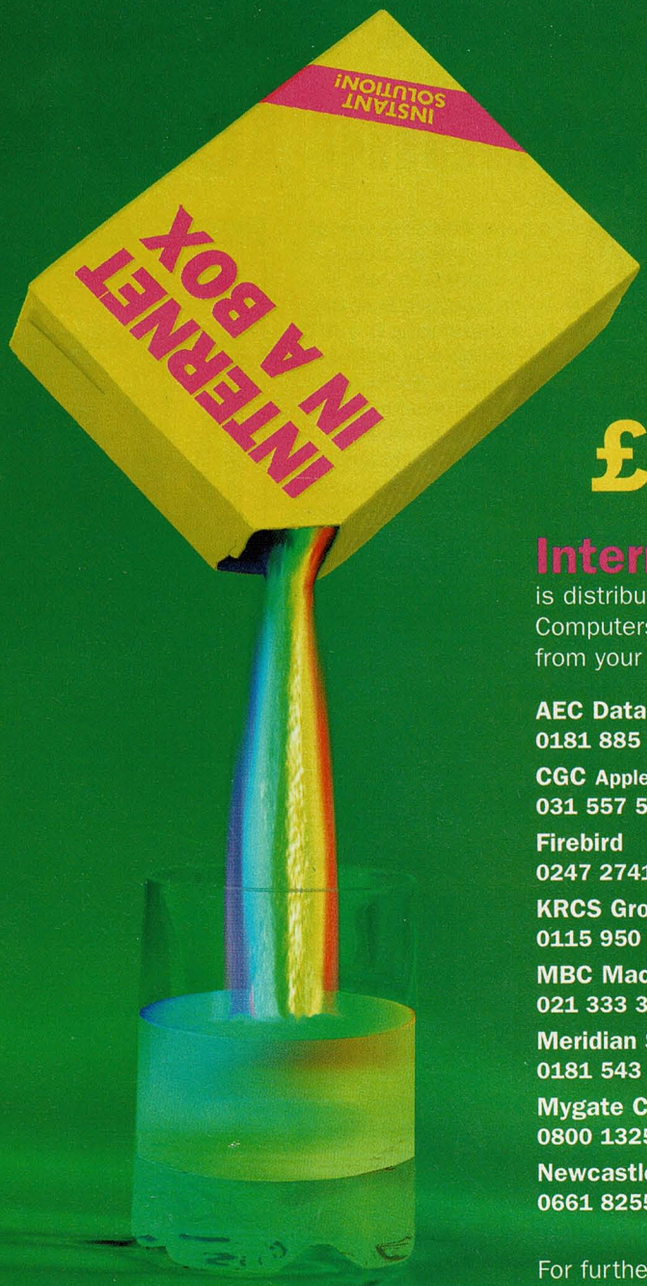

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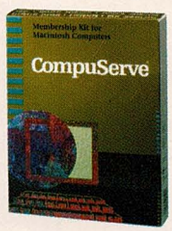
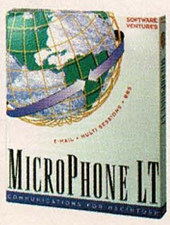


CompuServe Membership Kit
Graphical interface software and free on-line credit.



Microphone LT
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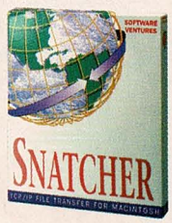


Snatcher
Internet file transfer made easy. If you can use a Macintosh you can now use the Internet.

*Only £299 SRP Price excludes VAT Saving over £100 on normal separate selling price.

System options grow

Before long a choice of operating systems for your Mac is going to be a fact of life (see MACFORMAT 20's lead story, 'Apple partners agree on next generation Macs'), although the Mac operating system will dominate. Different systems will offer a far wider choice of programs to use on the Mac.

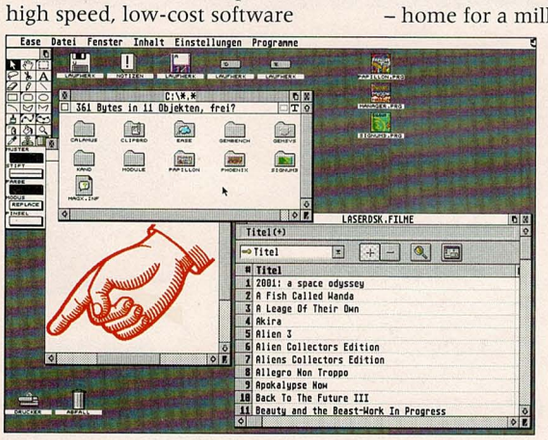
Apple is preparing its quantum leap to a multi-tasking OS. This will mean the Mac can share its time between programs. For example, you could use a word processor while the Mac worked away on rendering a luscious 3D picture. It sounds simple, but to make it foolproof requires some careful programming. The OS will also be faster and more efficient. System 8, due later in the year, takes the first steps in the complex process, while System 9 should really deliver the goods. The Mac OS is strongly placed to compete against other systems like IBM's OS/2 that you'll be able to run on future Macs.

■ An alternative operating system from an unexpected source will surface soon, in the form of MagiC Mac. Developed by German firm Application Systems Heidelberg, it's a program shell that offers you true multi-tasking now.

MagiC Mac doesn't use Mac programs like *ClarisWorks* and *Photoshop*, but there is a ready source of high speed, low-cost software available – surprisingly from the lowly Atari ST. The ST started as a popular cheap home computer, but has developed into a more proficient workhorse with a small but loyal following. Many of the programs written for the ST, and its more powerful cousin the Falcon, work with MagiC Mac running alongside *Ease*, which gives it icons and windows to work with.

The software alternatives will be of interest to specialist users – especially in the fields of graphics and music – but the most significant impact of MagiC Mac will be to win over disillusioned Atari owners. One of the biggest stands at a recent Atari show in Germany – home for a million Atari computer owners – was occupied by Apple showing MagiC Mac. An English version is expected later in the year. For more details Application Systems Heidelberg, who are based in Germany, can be contacted on 010 49 6221 300002.

Clive Parker & Richard Hill


Ease Datei Fenster Inhalt Einstellungen Programme
361 Bytes in 11 Objekten, frei?
LASERDSK.FILME
Titel(+)
Titel
1 2001: a space odyssey
2 A Fish Called Wanda
3 A Leage Of Their Own
4 Akira
5 Alien 3
6 Alien Collectors Edition
7 Aliens Collectors Edition
8 Allegro Non Troppo
9 Apokalypse Now
10 Back To The Future III
11 Beauty and the Beast-Work In Progress

With MagiC Mac and *Ease*, Apple hopes to entice Atari ST users to the Mac platform.

Smart document reading coming to Mac

The Xerox OCR program *TextBridge* is now available for the PowerMac, running many times faster than its Mac counterpart.

An impressive new way of bringing printed documents into your Mac is being launched later this year. Xerox is introducing DocuRT, which builds on the way optical character recognition (OCR) software enables you to read in text with the help of a scanner. Programs using DocuRT (Document Recognition Technology) can not only scan and convert text but also pictures and even tables of figures.

If you scan in a document with columns of text, illustrations, photographs and tables, DocuRT programs will be able to tell the different areas apart (including pictures with a full range of tones or just lines), and change the whole thing into a Mac document where each area can be treated the way it should be. You can edit the text and it will flow between the columns, change the size of the pictures or type new figures into the table while it reformats itself.

The plan is that Xerox will be offering the technology to programmers to use rather than releasing it as a stand-alone program. It's already talking to WordPerfect and Delrina among others. Expect the first fruits of DocuRT to arrive some time later in the year.

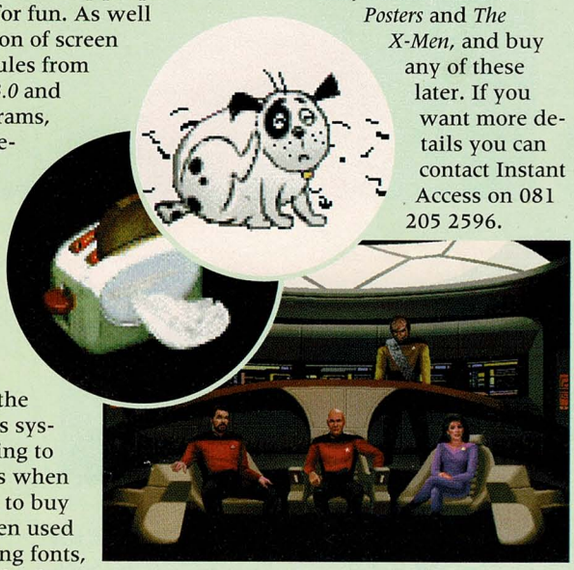
Meanwhile, the OCR program *TextBridge* is now available for the PowerMac at £116.33. With the help of a scanner, it can bring text into your PowerMac up to seven times more quickly than it could on the Mac. For more details on DocuRT and *TextBridge* you can contact Xerox on 0734 668421.

SCREEN SAVERS GO ON TO CD-ROM

You can have more screen savers than you have ever dreamed of with *The Complete After Dark Collection*.

Screen savers display pictures or animations if you don't use your Mac for a while – it's supposed to protect your monitor, but just as many people buy them for fun. As well as a selection of screen saver modules from *After Dark 3.0* and other programs, you can preview modules from newer programs and buy the code to enable you to use them over the phone. This system of paying to unlock files when you decide to buy them is often used when buying fonts, but this is the first time it's been used to sell a leisure item like this.

The £49.99 CD-ROM includes full versions of *After Dark 2.0* and *3.0*, as well as *More After Dark*. In addition, you can preview screen savers for *Star Trek, Star Trek: The Next Generation, Star Trek Screen Posters, The Simpsons, Marvel Screen Posters* and *The X-Men*, and buy any of these later. If you want more details you can contact Instant Access on 081 205 2596.



A bewildering array of novelty screen savers can be yours with a resourceful use of CD-ROM.

LOW COST HIGH SPEC BIG FORMAT LASER

With the EPL 9000 series from Epson, you no longer have to choose one or the other - now you get both low cost and high specification from the same A3 laser printer!

The EPL-9000 boasts superb print quality - achieved with Epson's unique technology and fine grade toner - ensuring stunning 600 dpi output.

Flexibility is a key word for the EPL-9000 series. You can print to a selection of paper sizes as well as A3 and A4 from the 250 sheet universal size paper tray. In addition to cut sheets, a built in front sheet feeder accepts a wide range of print media, including OHP films, envelopes, self adhesive labels - and even card! An optional 250 sheet cassette can be added to give a total capacity of 550 sheets.

Featuring an advanced SPARClite RISC processor, the EPL-9000 printers are amongst the fastest printers in their class, boasting first copy print times of less than 20 seconds. And with printing speeds up to 8ppm, the most complicated printing tasks are delivered quickly and efficiently.

With LocalTalk built into the EPL-9000ps, and Parallel and Serial as standard, the optional Coax, Twinax and Ethernet cards ensure the printer can sit comfortably on your network.

Any emulation can be assigned to any port. The EPL-9000 will then automatically switch to a port as it becomes available - at the same dynamically allocating buffer and operating memory, without user intervention.

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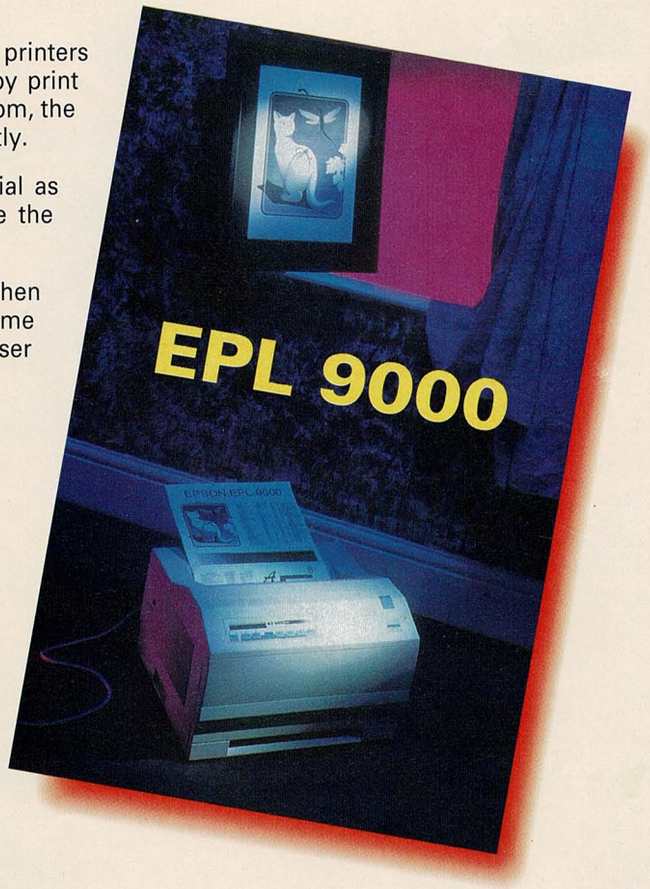
A3 • 600 dpi • 8ppm • 2 Mb memory, upgradable to 64 Mb • Parallel + Serial PCL5e • RISC processor • 250 sheet feeder

EPL-9000ps
As EPL-9000 with PostScript Level 2, LocalTalk and 6Mb memory



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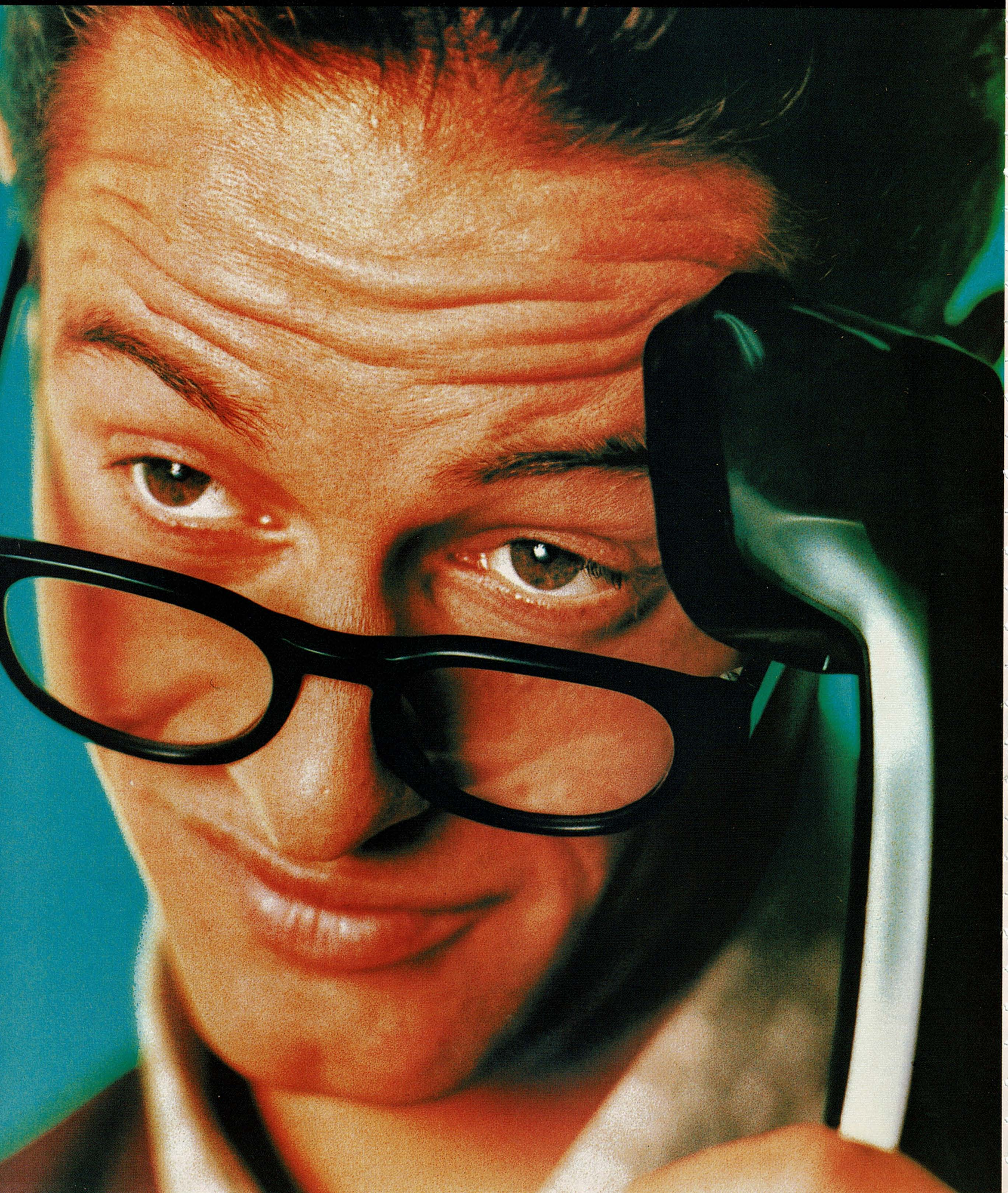
You bought a Mac. And then a few more. You tied them together. People started sharing.



Now they're sharing their frustration. With you. Time for a Workgroup Server.

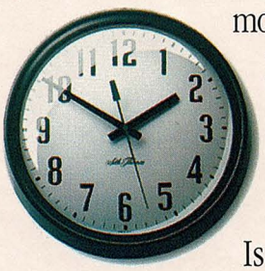
That's the funny thing about the Apple™ Macintosh™ computer. With little fanfare and an idea known simply as 'plug and play,' it turned a whole group of novice users into networked team players.

Is it any surprise? Just plug a connector into the back of a Macintosh and you're networked. You can share files, printers – virtually any computing resource.

For some users this is the only kind of 'peer-to-peer' networking they need. Others, however, find they need a Workgroup Server, dedicated to improving the productivity of their team or department.

So how do you know which is right for you? Just ask yourself some simple questions.

Do I have more than five networked computers? Has printing begun to slow down my Macintosh? Am I sharing more and more files with more and more people? Is that essential information locked up on someone else's Macintosh?



Is there a danger of losing vital information? A 'yes' to any of these questions means it's time to consider an Apple Workgroup Server.

Apple Workgroup Servers provide the industry's easiest to manage centralised information store.*

Users can share files, ensuring they are available to just the right people at the right time. Without losing information or slowing systems down.

Apple Workgroup Servers also provide ways to share network applications and services, like accounting programs, databases, e-mail, calendars and more.

And that is just the beginning. With our integrated print spooling software users can free-up their Macintosh computers from printing jobs much faster, enabling real gains in productivity.

With Dantz Retrospect Remote® software† you can schedule automatic back-ups of both server and individuals' Macintosh desktop data across the network – automatically. Never has your information been so secure!

With FileWave®‡ software you can simplify the management of upgrading or installing new software. FileWave automatically checks the networked Macintosh systems, ensuring that key applications and documents are uniformly maintained at the correct version.

And using Apple Remote Access software from Apple, even mobile PowerBook™ users can be managed. Apple Remote Access allows users to exploit their network services from anywhere in the world – across any time zone – as if they were on their local network.

Viper Instant Access™§ is a high performance application for fast access to reference information such as telephone numbers, price lists, product and people details, without the overhead of a general database application.

Central administration ensures both consistency and guaranteed availability – at any time.

So how easy is an Apple Workgroup Server to use? As easy as a Macintosh. And choosing the right Apple Workgroup Server for your needs is just as easy.

We have a complete family of products, including our newest models based on highest performance PowerPC™ technology. If this hasn't convinced you then browsing through our Apple Workgroup Solutions Guide will undoubtedly reveal the perfect solution from the breadth of software and hardware available.

To get your hands on our Solutions Guide – and for the name of your nearest Apple Authorised Reseller – call 0800 234800 today. And get the power you need most from your workgroup environment.

Apple

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MACROSCOPE

Learn how the 'Net competes with CD-ROM, meet ghostly apparitions, and discover why Josef Morell says the printed page is passé. By Richard Hill.

The battle for knowledge

Will the Internet make CD-ROM obsolete? On the face of it the 'Net and CD-ROM offer very different services, but competition is developing. As both media evolve, they'll be offering similar services. Why go out to a shop and buy a new encyclopedia edition when you can call it up over the Internet? Multimedia is going to mean more competition among the providers of our information.

There are many ways you could bring this wealth of information into your home. With your Mac, you can use CD-ROM and on-line services like the Internet or Apple's eWorld. You could pipe information through cables into your TV, connecting a box to it to use another form of on-line service called interactive TV.

Enthusiasts embrace these new ideas readily, but we won't know the revolution is truly in place until the 'man on the street' is using the services. The research firm Inteco recently completed a huge survey where it talked to 11,000 people across Europe, including 2,000 in Britain. (Political polls involve less than 1,000 people.) It asked people what information they wanted, how they wanted to get it and what they'd pay for over the next five years.

Why go out to a shop and buy a new CD encyclopedia when you can call it up over the Internet?

'We looked at quite a wide range of areas', says Inteco's Miles Thistlewhaite. 'We looked at the TV as entertainment – TV in general and video rental. We looked at home shopping and people's predilection for paying for on-line information. As far as the computer was concerned, we looked at the balance between on-line services and the potential for CD-ROM.

'We found that people's willingness to pay for all of this was not as great as you might expect – and where there is willingness to pay, it's not a mass market thing. It's something that relates to particular groups of people.'

Thistlethwaite says the TV may not evolve into the multi-faceted, interactive creature many are predicting. Video on demand – bringing movies down a cable to watch when you want to – could succeed if it's handled correctly. But a wide range of entertainment would need to be offered.

As far as using the TV to use on-line services – news, banking, shopping – is concerned, Thistlethwaite quotes France as an example. A nationwide service has been available for ten years, and yet only one person in four uses it.

Thistlethwaite says the computer is more likely to be the source of all wisdom for us. 'Over the next five years the number of households that have a computer is going to go up substantially – so in many ways the computer is likely to turn out to be the platform we see in many multimedia applications rather than televisions. People use them at work and want to have one at home. And they're driven into the home because of people's aspirations for their children's education.'

Internet image problems

Kanwal Sharma oversees Apple UK's multimedia operation. He suggests an alternative path, with the divisions between TV and computer blurring. 'People in the television industry are putting in more computing functionality, and people in the computer industry are putting in more television capabilities.'

This could help put a more user-friendly face on the Internet. Thistlethwaite says the survey

showed a resistance to using modems and the Internet that will take time to overcome. 'Looking at existing patterns of behaviour says a couple of things. People's familiarity with using a telephone and their willingness to do so is much less in Europe – outstandingly so in the UK, where people have real problems with it. It's cultural – they do fewer things, they're less confident at ringing up and ordering meals.

'The other thing is costs – at the moment, using a telephone costs you. If we had some paying system that would stimulate the use of on-line services – until we do have, that's going to act as a barrier. In the States, of course, you have free local calls.'

Sharma agrees the Internet faces some obstacles before gaining widespread acceptance in Britain. 'People are talking about the digital super-highway, but there's not that much content that's relevant to a lot of people out there. So you have the Internet, with an interface

The survey showed a resistance to using modems and the Internet that will take time to overcome.

that's difficult for a lot of customers to get into.'

It isn't all bad news for the Internet, says Thistlethwaite. 'You can have a revolution. If you look at the States – go back 12 months, people were much less aware of the information superhighway and the potential. There was an enormous national blitz on the subject and attitudes have changed. You might say, well that hasn't happened yet in Europe on the same scale.' Sharma adds that companies are working hard to make on-line services more user-friendly, citing Apple's own eWorld as a prime example.

Thistlethwaite reckons that CD-ROM seems set to become the mass information medium – for the next few years. 'It's a very natural progression. The CD-ROM, in a sense, is a more efficient way of doing something that people have been doing on floppy disks up until now. It offers them a better version of what they've already got – whereas getting on an on-line service and finding out about it is a relatively radical step. When the steps are easy to take, they're more likely to take place.'

Ghosts in the machine

Multimedia company MDI had a few spooks of their own when they were creating their haunted house CD-ROM, *Ghosts*. No-one at MDI actually saw a ghost themselves, but there were several... unexplained incidents. *Ghosts* Writer and researcher Claire Griffith explains: 'Files went missing, photographs went missing. They never turned up – usually things get lost in offices and turn up eventually. You started to think you were possessed by the end of the project.'

Dave Hornsby, who oversaw the design of the CD-ROM, adds, 'One of our photographers went to a house where there were supposedly poltergeists. He was trying to take photographs and his flash gun wouldn't work. He thought the batteries had gone, but he'd come prepared. So he got some new batteries and it still wouldn't work. He left the building to buy some more, just in case the spare ones had been duds, and it worked as soon as he got outside.'

This may not look like an interface for a reference guide, but you can use this house to discover a multitude of spectral facts.

Ghosts is only the latest release from MDI, which has been one of the busier CD-ROM companies lately. Recent titles include *Behind The Scenes: The Zoo* and *Dictionary Of The Living World* (look out for the review in MACFORMAT 22). These discs use established CD-ROM ideas taken from books.

Ghosts takes a fresh approach. The interface here – the design of the way you interact with the program – is in fact a house. *Ghosts* takes influences from 3D games like *Myst* to achieve a different look for a reference title, and breaks free of the idea that CD-ROM needs to look like a book or a video.

Claire Griffith says, 'The subject lent itself to something different. We found that a lot of multimedia products were getting quite dry, using a dry way of looking at the information. So we decided to do something that was more exciting, a completely different way of extracting factual information.'

Dave Hornsby adds, 'It just seemed like the most obvious thing: ghosts – haunted house. I think we were originally going to have everything in one room. It was going to be like a library, where there are loads of books on different topics on the shelves. We thought, "Why not spread all this stuff around the house, have a bit of a story around it?" '

The CD-ROM format made this possible, but at the same time it was also a limiting factor, says Hornsby. 'We wanted there to be a lot more going on in the house. We'd love everything to do something when you clicked on it, but there's just not enough disc space. We wanted to have atmospheric music as you walk round the house, but music takes a lot of space as well. We'd have had to sacrifice real, hard content just to put embellishments on.'

The end result adds an extra dimension to *Ghosts*, which includes interviews with ghost hunters and people who claim to have witnessed a ghost. But the ultimate ghost story happened to Hornsby himself when he was alone at work. 'I heard ghostly voices – a man and a small girl. It was ten or eleven at night. I was checking all the doors were shut, and it sounded like somebody started laughing – right behind me. I spun round very quickly and there was no-one there. I could hear these faint chuckling voices, so I got out as quick as I could.'

The library was originally going to hold everything you needed, until the *Ghosts* project took on a life of its own – in more ways than one.

Sceptical? Read the review of *Ghosts* on page 72 and try the demo on this month's CD-ROM

Trad jazz

The heralded age of electronic publishing, of magazines on disks and the Internet but not paper, is some way away, says the a top Mac designer. 'All those days are a long way off,' says Ian Swift (Swifty), the man behind the Lion Bar TV ad. 'How many people buy newspapers in a day? It'll take a long time to persuade millions of people to go out in the morning and buy something that they'll stick in a machine. The CD-ROM could be like the eight-track cartridge.'

You may not know it, but you're probably very familiar with Swifty's design work. Glamorous projects like the art direction on the jazz magazine *Straight No Chaser* and record sleeves for the Talkin' Loud label have given him a large following among design students. He also won the *XYZ magazine* award for Apple Computer Designer Of The Year.

Now Swifty's turning his attention to publishing with the release of *Command Z*, a magazine showcasing his work as well as containing interviews with other design notables. The magazine is accompanied by a floppy disk containing two of the font designs from which he gained his reputation. It's being released mainly as a response to student followers. 'I get so many letters from students asking for information – they collect flyers, they collect bits of Swifty design.

'In the first one, I've done logos – some of the ones I liked and the ones that didn't happen. There's loads of things that no-one will ever have seen before, and it shows the whole design process. So you might have one logo with perhaps ten ideas as proposals.'

Swifty got his break after his course at Manchester through renowned designer Neville Brody, famous for his work on *The Face*. Over the course of his career he's come to rely on the Mac more and more, he says. 'The Mac enables you to have everything in-house. I can put together magazines, record sleeves and posters here in my office, so I can work round the clock, which is always a big plus – I'd rather come in midday and work through 'til midnight.'

After using the Mac for years, Swifty reckons he's now arriving at a new understanding of its place in the design studio. 'I'm a great believer in the design process – sit down with a bit of paper, scribble out some ideas and then, once you have the ideas... The Mac is only a tool. It's one of the best tools that a designer can have, but it can't design things for you.'

Technology moves too fast – the public can't keep up with it. They'll always revert to things they know.

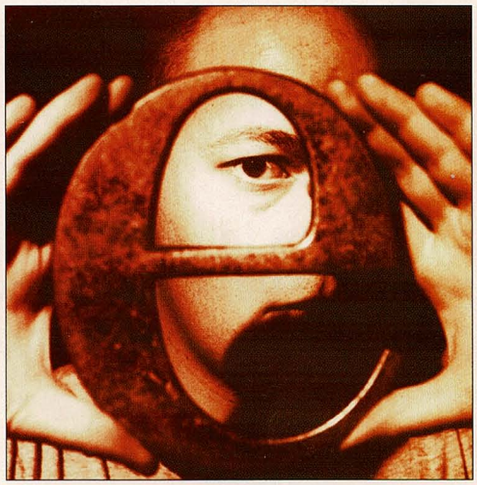
Swifty doesn't attempt to deny the benefits the Mac has brought to design, but he wonders if we've begun to rely on it too much. 'Design is not a craft any more. Design has always been handcrafted – that's what it is. Now you have this machine that's taken it all over. What I'd like is a palette you can sit at, like a drawing board. Say you're doing a Jackson Pollock – I'd like to be able to splash this palette with a load of paint, and it would show this paint on the screen. And then you save that, and wipe down the palette and do it again... and build up this painting of layers. It's getting the hands-on effect in there.

'So you're designing the traditional way, and using the computer as well and getting the benefit of that at the same time. I think they're too separate at the moment.

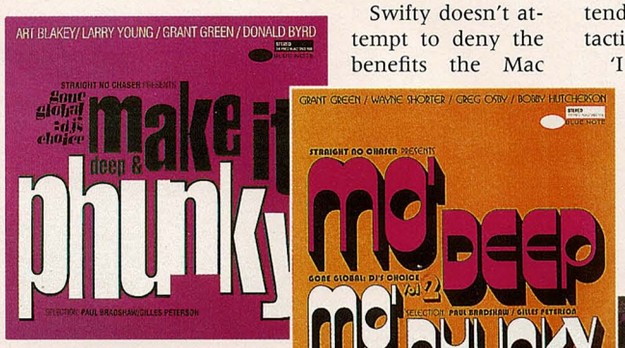
'I've been working away on this machine and I'm bored with just moving a mouse around. I try to get away from the Mac and back to the drawing board, just to manually create things like I used to. And then I scan them in. The end product is still on the computer, but 50% of that process is going back to the traditional methods.'

This desire for a return to craft is reflected in the package Swifty is putting together. It combines the high tech functionality of the Mac fonts on disk with the almost hand-made values of the pocket magazine. The magazine is intended to remind people that print is as much a tactile experience as a visual one.

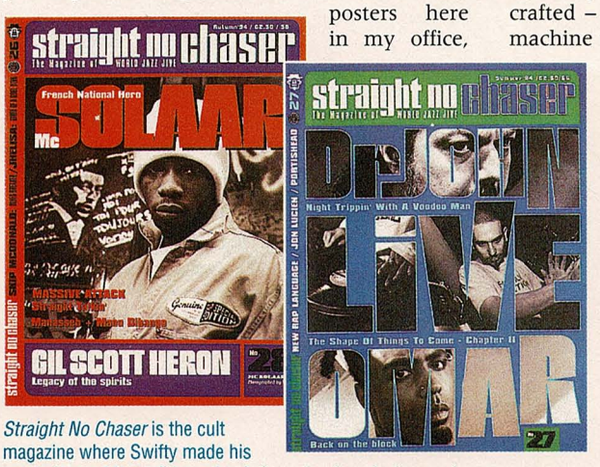
'I think technology moves too fast – the general public can't keep up with it. They'll always revert to the things they know. I've still got my vinyl records – I'm not converting to CD, no way. I'd like to see things existing side by side, as opposed to one thing taking over the other. The old existing alongside the new – that's the best way forward.'



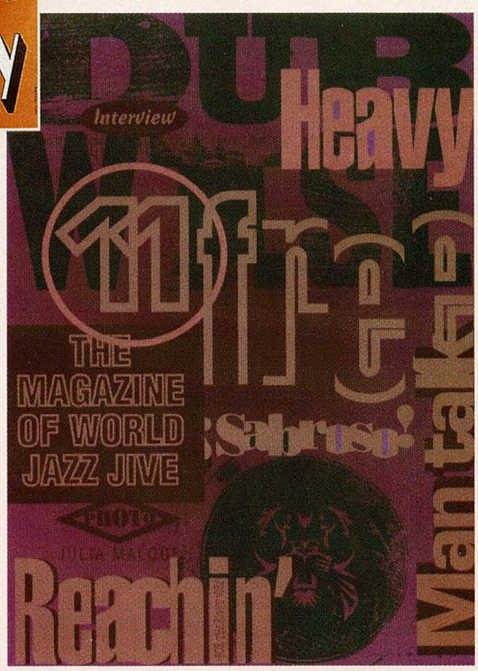
Cult designer and font creator Ian Swift – Swifty – says the Mac mustn't replace traditional design crafts: 'The old existing alongside the new – that's the way forward.'


ART BLAKEY / LARRY YOUNG / GRANT GREEN / DONALD BYRD
STRAIGHT NO CHASER PRESENTS
make it deep & phunky
GRANT GREEN / WAYNE SHORTER / GREG OSBY / BOBBY HUTCHERSON
STRAIGHT NO CHASER PRESENTS
mo DEEP
GONE GLOBAL DJ'S CHOICE Vol 2
mo phunky

Swifty's designs for records released by companies like Blue Note and Talkin' Loud have been much imitated by students.



Straight No Chaser is the cult magazine where Swifty made his name. It was his spell here that led to other jazz design work.



Swifty was producing so many designs for jazz records and magazines that he became typecast. 'I almost became the in-house designer for the jazz scene,' he says.

On the line

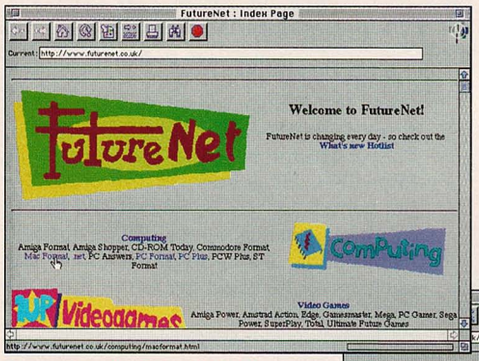
Magazines in today's form are old news according to Josef Morell. He pockets his cyberbucks and goes looking for newsagents on the Internet.

The money of the future is just around the corner. But, please God, don't let it be called cyberbucks...

Look, this really is old hat. This whole business: magazines, paper, ink, trees, newsagents – not exactly new, is it? The Chinese had the whole thing sussed thousands of years ago (except the newsagents – one of the two things not invented by the Chinese, the other one being the electric nose hair trimmer.)

Here we are, a magazine devoted to the very latest in personal computing technology, and it's all still done with mashed up Finnish forests. It's really not good enough, is it?

Well, a couple of months back, the powers that be at MACFORMAT decided it was about time the magazine came bang up to date and went electronic and on-line. And by the time you read this, there will be an electronic MACFORMAT available at your local Internet cyberstore.



Here we have it – Future Publishing (makers of this magazine) on-line. This is the World Wide Web, which works by clicking on text or pictures in blue to take you to a new page. So if we click on MACFORMAT...

...we go, er, where you can see what of MACFORMAT there is on line. Not a lot yet, but just you wait!

The advantages of having an on-line magazine are manifold. From the reader's end, it is instantly accessible, contains the very latest information, can be searched like a database and cross-referenced with ease, and video and sound can be included for that truly multimedia reading experience. From the publisher's end, it's cheap – two thirds of the costs of a magazine are related to creating the physical object, not the words and pictures in it.

Now, to be honest with you, we're some way off having a 100% electronic version of MACFORMAT at the moment. For one thing, people like having the physical magazine in their hands, and I don't want to take my PowerBook to read on the loo. And there's the more serious problem that no one has quite figured out a sensible way of paying for it yet.

Credit cards are currently the only option, but they're not really practical for the small amounts of money you spend on magazines – especially if you take the next step of charging per page read instead of the whole thing. And people don't like sending their credit card details over the 'Net, where journalists from *The Independent* can get at them.

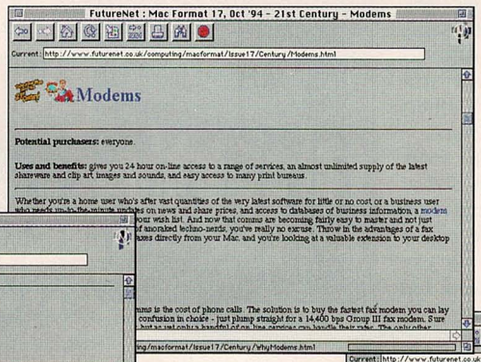
Solutions will be at hand, however, with the dawn of electronic cash. A company called DigiCash is one of the furthest along the production line with this, and is currently beta-testing its cyberbucks. (Yes, that's what they're called. Almost makes you feel all nostalgic about the ECU, doesn't it?)

Their system works like this... You open a bank account with them, and pay in some real money. They then give you some electronic tokens – your cyberbucks. These use clever encryption and authentication techniques so they can't be forged. Then, when you want to buy something over the ether, you send the requisite number of cyberbucks (or, more likely, your software does it quietly in the background). These are then forwarded to the bank by the person you've bought something from, and the bank transfers some real cash into the vendor's bank account.

Electronic cash will go much wider than the 'Net, of course. It's only a matter of time before e-cash (this month's buzzword) is the standard in real life too, with your cyberbucks being downloaded into a smartcard you carry around. Indeed, a trial of a similar system is under way in Swindon, of all places.

So having whetted your appetite for magazines being downloaded to your Mac and being paid for in ways that make you cringe every time you see the name, how far away is it?

The technology will be there to do it properly in 1995, but you can get a taster now, if you have a modem and an Internet connection. And being the sort of person who wants to get 100% from their Macintosh you have both, of course – not to have would be like having an answering machine and no telephone. To have a look at the way cash will be, point your World Wide Web Client at:
http://www.digicash.com/



Here you can read the cover feature from MACFORMAT 16, enhanced with hypertext links and interactive jargon busters!

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It's an exciting time in publishing at the moment – this must be how Gutenberg felt. But I wonder if he had any idea what the possibilities of his invention were, and if we have any more idea today about where electronic magazines will lead us. If you reckon *you* have, e-Mail me at **josef@futurenet.co.uk**

Joseph Morell

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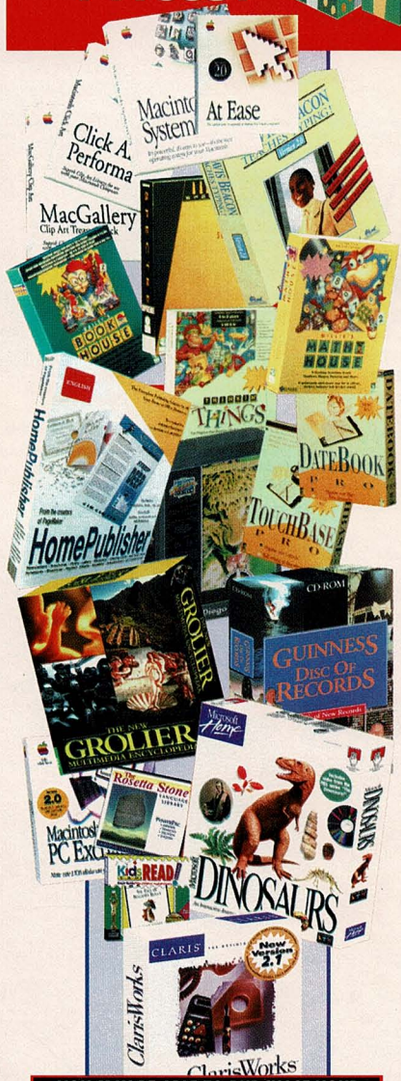

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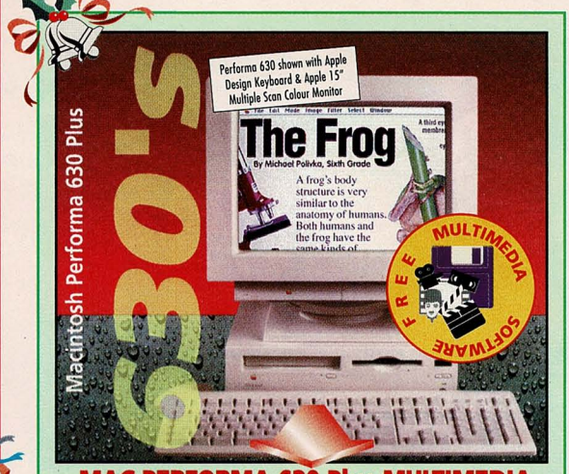
Performa 630 shown with Apple Design Keyboard & Apple 15" Multiple Scan Colour Monitor
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By Michael Polivka, Sixth Grade
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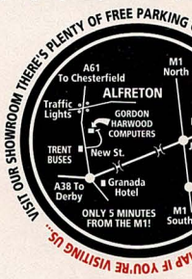

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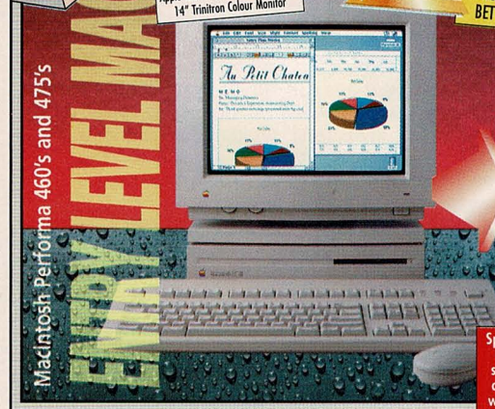

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7100/66	8/250	£1659	(£1949)
7100/66	8/350	£1799	(£2114)
7100/66	8/500CD	£2049	(£2408)
7100/66	8/500AVCD	£2199	(£2584)
8100/80	8/500	£2999	(£3524)
8100/80	16/500CD	£3249	(£3818)
8100/80	16/500AVCD	£3349	(£3935)
8100/80	16/1000CD	£3499	(£4112)
8100/110	8/2000	£4095	(£4812)

These are CPU prices -don't forget your keyboard & monitor

"Hey, if you're used to using PC's, you can even run Microsoft Windows on your Power Mac too! SoftWindows upgrade kits are available now... from as little as £119! Run your favourite PC programs right from your Macintosh! Please ask us for details of what you need."

COLOUR MONITORS

Apple Colour Monitors

Genuine Apple Monitors from only... £155 (£183 Inc. VAT)

MONITOR PRICES	Bought with CPU	Purchased Alone	Purchased with a PowerMac
14" Performa Plus (.28)	£155 (£183)	£189 (£223)	-
14" Trinitron (.26)	£249 (£293)	£265 (£312)	from £165
14" Audio Vision (.26)	£330 (£388)	£344 (£405)	-
15" Multiple Scan (.28)	£289 (£340)	£305 (£359)	-
17" Multiple Scan (.25)	£699 (£822)	£739 (£869)	from £539
20" Multiple Scan (.26)	£1459 (£1715)	£1499 (£1762)	from £1299

Just pick a monitor that connects to your CPU. You may be able to add more Video RAM (VRAM) to increase maximum colours displayed.

LC III/Performa 450 - Performa 475 - Performa 630 - PowerMac 6100 - 7100 - 8100

17" 20" 17" 17" 20" 20"

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GH have secured stocks of this exciting revolutionary NEW HIGH QUALITY INKJET PRINTER! Boasting an incredible 720dpi resolution max. output, the Stylus 800 is unique! Take a look at recent magazine reviews to the glowing reports for this printer! If you need the ultimate low cost inkjet proofing device - This is the one for you!

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INCLUDES SHEET FEEDER

APPLE COLOUR STYLEWRITER PRO PRINTER
Fantastic Colour Print, ideal for proofs etc. 360dpi
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Excellent Colour Print, ideal for proofs etc. 360dpi
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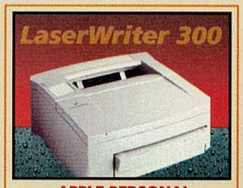

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LaserWriter 300

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APPLE STYLEWRITER II
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StyleWriter II

Apple Quality at a Budget Price for Super Mono Printing

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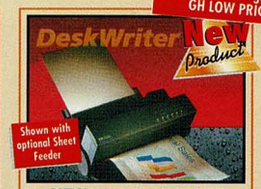
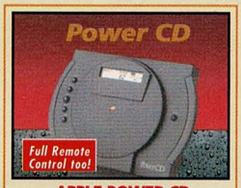


NEW... HP DESKWRITER 320 INKJET PRINTER
Great 600 x 300dpi Budget Mono (Colour kit available)

HP DeskWriter 320

GH Best Budget Buy Inkjet Printer - Recommended!

£195 (£230 Inc. VAT)



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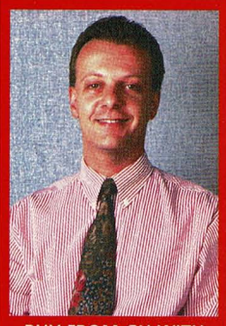
Fax for just **£145** (£170)

SUPRA 288 FAX MODEM
External, 28800bps, Not BABT Approved, inc. FREE Software
Fax for just **£209** (£246)



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Giles Harwood - Managing Director

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SICOS SCANNER

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Just plug in for an excellent sound boost to your Mac

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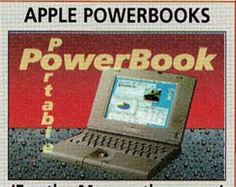

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PowerBook 540 12/240 with Mobility Last Few+Modem	£2499	(£2937)
PowerBook 540c 4/320 with Mobility Bundle	£3049	(£3583)
PowerBook 540c 12/320 with Mobility Bundle +Modem	£3499	(£4112)
PowerBook Duo 250 4/200 -Whilst Stocks Last-	£1139	(£1339)
PowerBook Duo 280 4/200 with Mobility Bundle	£1749	(£2056)
PowerBook Duo 280 12/200 with Mobility Bundle +Modem	£2099	(£2467)
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MORE PRINTERS...

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HP DeskWriter C 560 Colour, 300dpi	£429	(£504)

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LaserWriter Select 360 A4, 600dpi, 10ppm, PostScript 2	£1249	(£1468)
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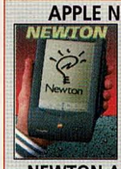
540Mb Capacity	£395	(£465)
1000Mb Capacity	£675	(£794)

INTERNAL...

170Mb Capacity	£159	(£187)
270Mb Capacity	£189	(£222)
340Mb Capacity	£209	(£246)
540Mb Capacity	£299	(£352)
1000Mb Capacity	£589	(£692)

APPLE NEWTONS



Newton 110 only... **£399** (£469 Inc. VAT)

NEWTON 100 £PHONE!!!

NEWTON ACCESSORIES

1Mb Storage Card	£42	(£50)
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External FAX Modem	£79	(£93)
Fortune 500 Guide to USA	£52	(£62)
Fodors '94 Travel	£52	(£62)
Business Forms	£20	(£24)
Expense Plus	£58	(£69)
Day-Timer, Meeting, Expenses	£58	(£69)
Go Figure	£35	(£42)
NEWTON 100 EXTRAS		
Recharger & Battery	£39	(£46)
Leather Case	£41	(£49)
Rechargeable Battery Pack	£15	(£18)
NEWTON 110 EXTRAS		
Recharger & Battery	£52	(£62)
Leather Case	£47	(£56)
Rechargeable Battery Pack	£15	(£18)

Lots more available - PHONE US!

APPLE QUICKTAKE 100

QuickTake Camera

MAC ▼ £525 (£617 Inc. VAT)

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24 bit colour, stores up to 32 images, auto exposure -1/30 to 1/175, f2.8 to f16,auto flash etc!

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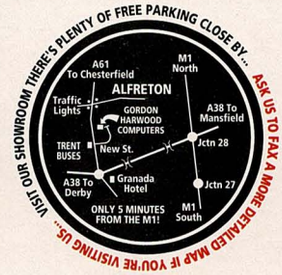

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WHAT'S NEW

Super speedy modems, handwriting recognition pens, clever utilities and much more... Richard Hill brings you the low-down on the newest hardware and software for your Mac.

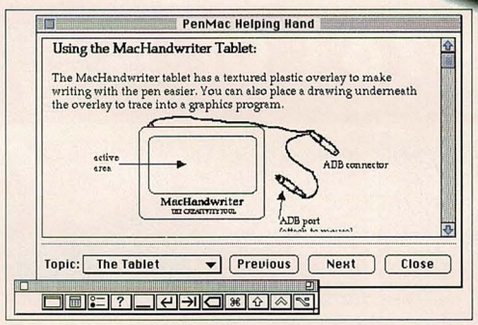
MacHandwriter

Throw away your keyboard – MacHandwriter brings handwriting recognition to your Mac. It's a package combining a graphics tablet and software that enables you to enter text with a pen rather than tapping it in on your keyboard.

In addition to the typical art and design uses of the tablet, the software broadens its potential considerably. There are a number of work areas you can call up, including one you can write text into. The program converts your writing into type that you can send into a word processor document. It's not as fast as typing, but it takes a lot less practice. Schools might find it very useful.

There's also a numeric keypad-style toolbox that you can use to enter numbers into a spreadsheet, and you can use the pen and pad instead of your mouse. (If you put the pen on the pad it works like the mouse with the button pressed down.) The program even recognises command key shortcuts when you press a button on the pen and form a letter. For example, you can click on the hard disk icon and form the letter 'O' with the pen to open the hard disk's window.

It's a very relaxed and natural way of working. You can sit back from your Mac and write, draw and edit with a single pen.


PenMac Helping Hand
Using the MacHandwriter Tablet:
The MacHandwriter tablet has a textured plastic overlay to make writing with the pen easier. You can also place a drawing underneath the overlay to trace into a graphics program.
active area
ADB connector
MacHandwriter
ADB port
Topic: The Tablet
Previous
Next
Close

There's an on-line help facility you can call up anytime – using the programs is so simple, you won't need a manual.

Pens and graphics tablets are popular with designers for obvious reasons, but could also be useful in schools.

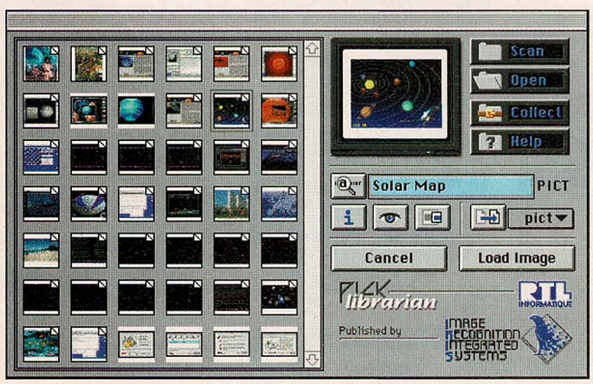
- **Price: £468.83 with pressure-sensitive pen, £410.08 with standard pen.**
- **Requires: any Mac with System 7 and 5Mb of RAM.**
- **For more details contact Softline Pro on 081 401 1234.**

Pick Librarian

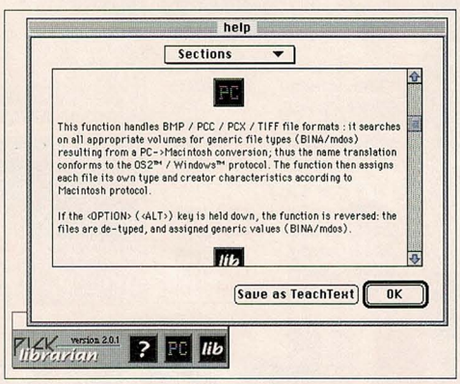
The library that *Pick Librarian* administers is one of images rather than books. *Librarian* is a Control Panel, or plug-in for Adobe *Photoshop*. When it's set up, you can see small representations – or thumbnails – of each of your image files. You can make an image larger to take a closer look or get information, such as file size, easily. Loading the file you want is simple enough: all you have to do is double-click on its icon.

The process of setting up the display of thumbnails is not an intuitive one, though, and the program has trouble finding the programs that the images were made with. The graphics programs on MACFORMAT's test Mac are not deeply hidden in the hierarchy of folders – just two layers – but *Librarian* was unable to find them. The maker, IRIS, says this is due to a fault with Apple's Easy Open software. The problem can be overcome.

Using *Librarian* as a part of *Photoshop* is much less trouble. You double-click on the file and it loads straight into the program. If you use images a lot, you can save yourself time browsing through Photo CDs and other sources. But there are still some design bumps to be smoothed out.



Pick Librarian offers you a visual menu of the images you have on your hard disk or CD-ROM, so you'll have no more worries about forgetting file names.


help
Sections
PC
This function handles BMP / PCC / PCX / TIFF file formats : it searches on all appropriate volumes for generic file types (BINA/mdos) resulting from a PC->Macintosh conversion; thus the name translation conforms to the OS2™ / Windows™ protocol. The function then assigns each file its own type and creator characteristics according to Macintosh protocol.
If the <OPTION> (<ALT>) key is held down, the function is reversed: the files are de-typed, and assigned generic values (BINA/mdos).
lib
Save as TeachText
OK
Pick librarian
version 2.0.1
?
PC
lib

It can also convert PC image formats to Mac files and back, and provides on-line support to explain the features.

- **Price: £82.19.**
- **Requires: any colour Mac with System 7, *QuickTime 1.6* or later and a 13-inch monitor.**
- **For more details contact MacWarehouse on 0800 181332.**

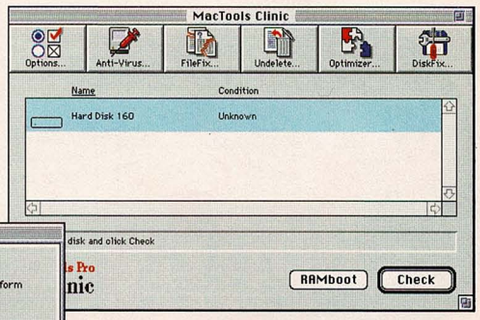
MacTools Pro 4.0

The latest version of the excellent troubleshooting bundle *MacTools* continues the current vogue across all sorts of programs for adding value with on-line help features. No longer do you have to dig out the manual when you're stuck: you can call up assistance from the program itself.

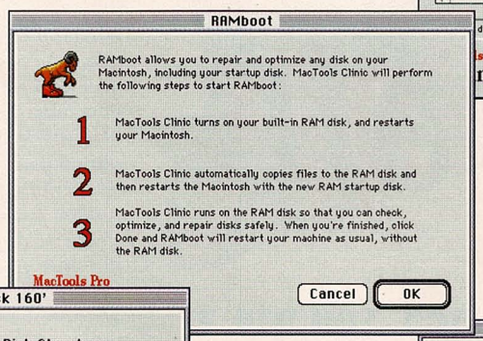
The biggest cosmetic change for version *4.0* is *MacTools Clinic*, a single program that enables you to use the majority of the tools, which include disk repairing and maintenance, virus detection and file recovery. It's a big improvement on having to use each program individually.

The RAMBoot feature means you can effect speedy repairs without having to start-up from floppy disks, while extras like *SmartTips* give out basic advice for things to check before you use *MacTools*. The package was friendly and usable before – version *3.0* was awarded 91% in MACFORMAT 18 – and the new version builds on these strengths.

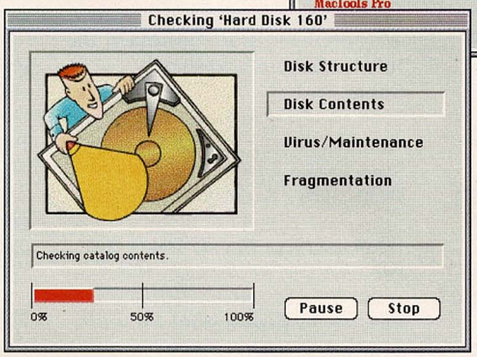
■ Price: £128.07. Upgrades: £45.83 from version 3.0, £57.58 from earlier versions.
■ Requires: LC or better, 4Mb of RAM (8Mb recommended) and System 7 or later. Does not work on double-density (400K) floppy disks.
■ For more details contact Symantec on 0628 592274.



The *MacTools Clinic* brings together many of the programs that used to be separate in previous versions of *MacTools*.

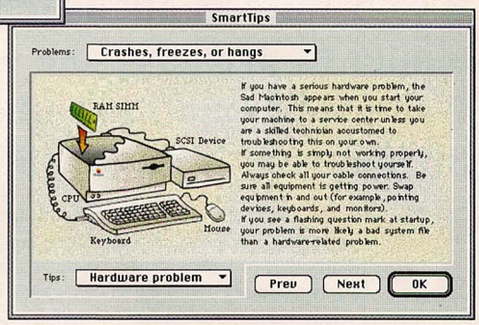

RAMboot
RAMboot allows you to repair and optimize any disk on your Macintosh, including your startup disk. MacTools Clinic will perform the following steps to start RAMboot:
1
MacTools Clinic turns on your built-in RAM disk, and restarts your Macintosh.
2
MacTools Clinic automatically copies files to the RAM disk and then restarts the Macintosh with the new RAM startup disk.
3
MacTools Clinic runs on the RAM disk so that you can check, optimize, and repair disks safely. When you're finished, click Done and RAMboot will restart your machine as usual, without the RAM disk.
MacTools Pro
Cancel
OK

Despite a truly dreadful illustration, this panel states clearly what RAMBoot can do – it's a no-fuss way of fixing nasty faults.



There's an extensive tips section, which gives you ideas of things to try out before you resort to using repair programs.

The core of the package is its ability to check disks for damage and repair them – testing only takes a few minutes.


SmartTips
Problems:
Crashes, freezes, or hangs
RAM SIMM
SCSI Device
CPU
Keyboard
Mouse
If you have a serious hardware problem, the Sad Macintosh appears when you start your computer. This means that it is time to take your machine to a service center unless you are a skilled technician accustomed to troubleshooting this on your own.
If something is simply not working properly, you may be able to troubleshoot yourself. Always check all your cable connections. Be sure all equipment is getting power. Swap equipment in and out (for example, pointing devices, keyboards, and monitors).
If you see a flashing question mark at startup, your problem is more likely a bad system file than a hardware-related problem.
Tips:
Hardware problem
Prev
Next
OK

BOX OF DELIGHTS

Super-fast modems

With more people linking up to the Internet every day, things are looking good for modem manufacturers. An addition to the popular Sportster range is the brand's most powerful yet, giving your Mac fax and modem capabilities for £351. The top speed of the modem is 28,800 bits per second and it complies with V.34, the top data transmission standard. The fax works at 14,400bps and the necessary software is included. For more details contact US Robotics on 0753 811180.

Multitech is launching its first V.34 modem for £821.33. It also has 28,800bps modem and 14,400bps fax capabilities, as well as a programmable ROM chip, which you can use to update code to keep the modem working with any future data transmission standards. For more details contact Computers Unlimited on 081 200 8282.

The Sportster modem is one of the new breed of high speed modems for serious Internet surfers.

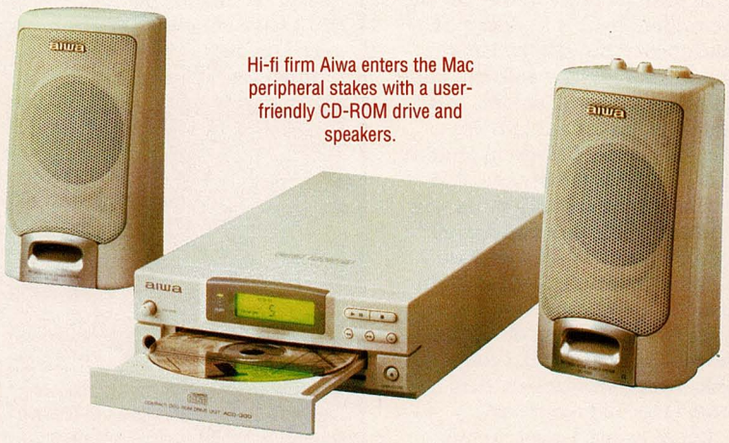
Stacker

If you're the sort of person who never has enough free space on your hard disk, help may be at hand from *Stacker 2.0*. The program gives you extra capacity on hard disks and other storage devices, like removable cartridges, by using data compression. Unlike well-known programs such as *Compact Pro* and *StuffIt* that compress individually selected files or groups of files, *Stacker* goes the whole hog and compresses your entire disk, effectively doubling its size. Far from slowing down your Mac, the makers claim *Stacker* can actually speed up the loading of some programs. It can handle drives up to 1Gb (1,000Mb) in size, and if you compress a cartridge or magneto-optical disk, you can use it on another Mac even if it doesn't have *Stacker* installed. Due for launch shortly, *Stacker 2.0* costs £93.94. For more details you can contact Stac Electronics on 0344 302900.

Aiwa goes Mac

With the Mac becoming as much of a home entertainment machine as a business asset, it's perhaps not surprising to find mainstream electronics firms sitting up and taking notice. The latest to join in is Aiwa, which is well-known for its hi-fi. It's offering the ACD-300 double-speed CD-ROM drive, which can play music CDs, for £293.73. Aiwa's hi-fi experience shows in the drive's design, which includes an LCD display and audio controls.

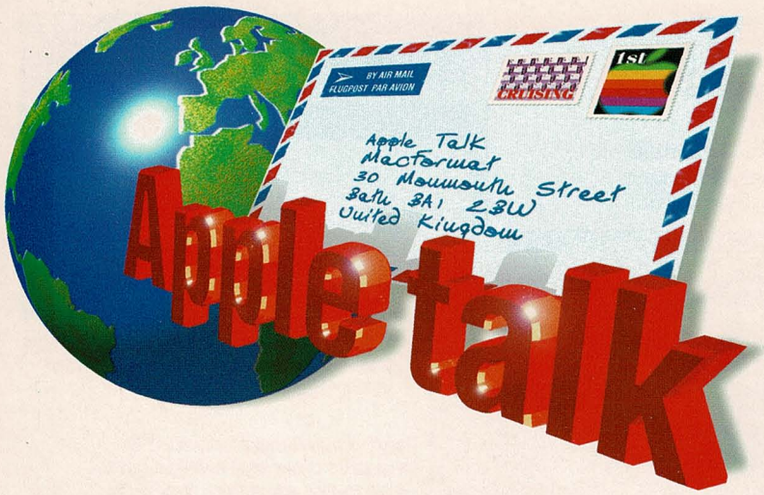
Also for the Mac is the SC-C55 speaker system, intended to be used for all kinds of applications, from making music to blasting aliens. The £49.99 speakers include bass enhancing features. For more details contact Aiwa on 081 897 7000.



Hi-fi firm Aiwa enters the Mac peripheral stakes with a user-friendly CD-ROM drive and speakers.

PrimeraPro adaptor

You can now add a special £152 adaptor to the PrimeraPro colour printer (reviewed on page 64 this issue). It takes A6-size paper (roughly the size of a postcard), so you don't have to waste an entire full-size sheet on printing a small picture. The adaptor comes with 100 sheets of the special paper that you need. For more details you can contact Bannerbridge on 0268 419101.



If your letter's published, you win a binder to preserve the issue it's in! Write to 'Apple Talk', MACFORMAT, 30 Monmouth Street, Bath BA1 2BW.

Derek tells us his mum has lovingly filed away two copies of every issue of MACFORMAT, carefully wrapped in tissue paper, ever since he started writing for us. Mums are like that, aren't they – totally impractical. I mean, what a waste of tissue paper. If you get a letter published in these pages and want to preserve that issue (so that your biographer will be able to get the text right, naturally), we'll make it easy for you: every letter published wins an exclusive MACFORMAT binder. So don't keep us waiting for your deathless words any longer!

Price-ist policy

I am writing to voice my hearty support for Dimitri Kerkentzes (MACFORMAT 18) and his comments about Apple's 'price-ist' policy.

I bought a Classic and StyleWriter a couple of years ago at a good price (because colour Classics were about to be introduced). The machine has brough my family nothing but joy: my wife and I use it to produce notes, posters, lists and diagrams for our jobs; my daughter uses it for school projects and games – as did my son. But herein lies the rub! My son is now a university student and has asked for a computer of his own. Can I get him a machine that can word-process, use spreadsheets and databases and provide good DTP facilities? Of course I could. I could get hisic, which provides all these and more (good old *HyperCard*).

But of course I can't. Apple seems to have left users like my family (and Dimitri) far behind. I have to admit that I am now considering buying a non-Apple machine for my son – which is such a shame for dedicated (and satisfied) Apple users.

Robert Moreton
Professor of Information Systems
University of Wolverhampton

Apple's current base machine is the Performa 460, which costs around £899, including keyboard, monitor and some software. It is based on a 33MHz 68030 chip, as compared with the original Classic's 8MHz 68000. In other words, it's a much faster, more powerful machine. I think that's called 'progress'. But the question remains: are Apple and the software producers leaving the more humble Macs behind too quickly?

Time out...

Why and I say why when I say why but what I really mean is why, do I have to purchase the November issue of MACFORMAT in October? Why does the January edition come out on the first of December? December being after November and before January, with a whole 31 days to go. I ask myself, and now you, why don't you just call the January edition December, the December issue November, the July issue June, and so on?

Oskar Smith
(and that's with a 'K' not a 'C')
Aged 12
(and that's 2 multiplied by 6)
Dalbeattie, Kirkudbrightshire

We showed your letter to Stuart, our Publisher, and he just said, 'Huh?' I gather it's some sort of publishing tradition. Magazines in the UK are cover-dated with the month they should go off *sale, presumably because when newsagents are searching for the out-of-date magazines on their shelves they find it easier to remember what month it* is *than what it was last month.*

Fast moving

In MACFORMAT 18, G S Gahir enquired about car racing sims on the Mac. I have a game called *The Duel*. I have not seen this advertised in any games columns in any magazine. It is possible that this is a copy of a game that has somehow had its name changed, but I certainly do not recognise it. The tactics are simple: you have to get to the gas station at the end before the police car can get you. I would gladly send G S Gahir a copy if he sends me a copy of one of his games.

Stephen Angus
Plymouth

Better still, send a copy to us and we'll put it on a future cover disk or CD-ROM for everyone to enjoy. Assuming, of course, that the game in question is shareware. I'm sure you realise that copying commercial games is a crime – as in a criminal offence.

By the way, we have just seen a brief demo of a new 3D car racing game under development by Atreid Concept, the French company responsible for Fury of the Furries *and the recent Mac conversion of* PowerMonger. *The 3D is incredible and the speed is on a par with anything out there now. Watch for more news soon.*

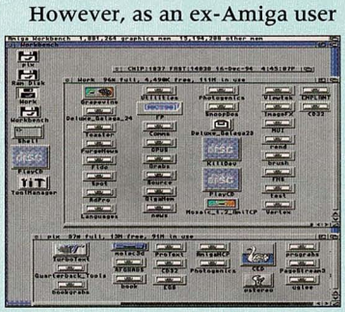
Even faster

I enjoyed your article in MACFORMAT 19 on accelerating old Macs. I recently obtained an Applied Engineering TransWarp 2340 accelerator for my Classic, which has a mindbendingly (for a Classic aficionado) fast 40MHz 68030 chip along with a maths co-pro. This has completely transformed my machine, giving it a *Speedometer* overall performance rating of 9.954. Your comments regarding any thoughts of DIY installation

REMEMBER WHEN YOU DIDN'T NEED MEMORY?

I love my new Macintosh. It is an absolute joy to use. Programs such as *Photoshop, Debabelizer, Macromedia Director* and *Infini-D* are excellent. They are useful tools in animation production, and I have abandoned my Amiga to use them.

However, as an ex-Amiga user I am forced to ask the following question: why does System 7 require so much RAM?



Ah, the good old days of the Commodore Amiga – a System complete with a Desktop so workmanlike they called it a Workbench.

System 6 was tight, efficient, and *fast*. System 7's RAM requirement slowed everything down. Why the huge increase from 700K to 1,700K? Okay, so multitasking has been added. But 1,000K to add an extra menu? Multifinder worked under System 6 and did not require 1,000K. What is using all that RAM?

Now System 7.5 does not fully function with less than 5Mb! this is insane! What language is the code written in, BASIC? Please do not tell me that every operating system requires that much memory. AmigaDOS 3.0 requires about 300K of RAM, and it also uses pre-emptive multitasking and multi-threads! Okay, AmigaDOS does not contain code making it easy to add extra monitors, but the 300K also includes the display memory (held separately in VRAM on the Mac).

Is there something in System 7 which I don't know about, or are the Macintosh System programmers simply hopeless?

Gordon Reid,
Lecturer in Computer Graphics,
Moorabbin, Victoria, Australia

I don't know, I thought they were pretty clever really, what with all those Control Panels and Extensions and things. But it's a fair question: just what is it that takes up all that RAM? Anyone with programming know-how able to explain to us without lapsing into techno-babble?

were particularly pertinent and I went for the dealer installation, a snip at £25.

One particular advantage of this accelerator is that it allows the RAM to be increased to 16Mb, but the disadvantage is that all four of the SIMM sockets have to be filled with identical SIMMs for it to work at all. Consequently it does require the purchase of at least 2Mb RAM. However as one of the main mail order dealers seems to have some of these that it is keen to dispatch at half its usual price, it appears to be a very good buy in comparison to the reviewed accelerators, particularly in view of the high performance. The guys in the Mac dealership had never seen a Classic whip through things as fast!.

David Monk
Lymm, Cheshire, via e-mail

We're always glad to hear from MACFORMAT readers about worthwhile products they've found. The Applied Engineering TransWarp Classic is £499 from Frontline, tel: 01256 841841. And while we're talking about accelerators, we'd just like to repeat our correction from last issue: the correct price for the DayStar Universal PowerCache accelerator for the LC is as follows: with 68882 maths co-processor fitted, £615; without co-processor, £460. For your nearest local dealer, contact Carol Wigham at Aptec on 0171 627 1000. Watch for details of accelerators for other Macs as well in MACFORMAT soon.

Can't pay, won't use

I completely agree with the comments about payment for shareware made by your reader Dave Porter in MACFORMAT 20. The impression given by the authors of a good deal of shareware is that if you don't live within cycling distance of them, or are not connected to the Internet, then how you pay is your problem, not theirs.

In fact, in the past I have resorted to going to the bank and paying hefty fees for dollar bills, which I have then mailed to shareware authors. I have heard nothing from a number of these, despite promises of upgrades, registered copies, etc. So much for integrity. To quote a piece of software: Stuffit! If I can't pay for it, I won't use it, and my conscience is clear. After all, most of these programs are fun, useful even, but vital? I don't think so.

Stephen Bamber
Solihull

We're still waiting for any shareware authors to come forward and defend their reputation. Or is making it easier for people to pay going to compromise the image of shareware authors as hobbyists who are in it for the love of it, not for the money?

Pentium kills

I'd like to extend my congratulations to every Pentium PC owner throughout the world (especially those who take delight in slagging off us humble Mac users) for giving the already buoyant Mac market abother great boost. No, really, thank you. Thank you for spending a fortune on a computer which doesn't work.

For anyone who hasn't heard (although you must be comatose not to have), it is true: the Intel Pentium PC chip does not work. You see, some professor type chap in the States thought it would be a really smashing idea to find out just how many prime numbers there are – you know, those whole numbers that can only be divided evenly by themselves and the number 1. To help him, he used his brand new Pentium-based PC. I'm afraid he'll just have to go back to the abacus though, because the sad truth is that Intel's baby just can't do basic arithmetic. Yes, this state-of-the-art piece of electronic wizardry cannot compete with those £3 calculators you buy in Woolworths when it comes to adding, subtracting, multiplying and, in this case, dividing. True, the problem only arises when you deal with six-figure numbers (allegedly), and hey, what's a few whole numbers between friends?

Quite a lot actually. These powerful machines are used in just about every field you can imagine, but most importantly, in finance and medical research. Perhaps this technical hitch accounts for the government's underestimate in European contributions?

But all jokes aside, the implications are serious. People's lives depend on this machine producing the right numbers – and I'm not talking financial security here. I mean real lives. What right did Intel have to keep this quiet? They say there have been only a few isolated complaints, but the thing is that for years we've been taught that computers don't make mistakes because they are purely logical machines and logic is infallible. True, but human designers are not. I can't believe they didn't spot this problem during the research and development stage.

We live in a dangerous world now. We depend on computers to give us accuracy every single time, not just sometimes. We have learned to take the word of a computer over the word of a human. The computer may not know any better, but the designer should.

Lindsay Bruce
Blairmore, Argyll

A very important point, no matter which computer we're talking about. Watch for a special report in MACFORMAT next issue.

Alex Summersby

Got something to say? Send your letter to 'Apple Talk' at the address in the box on the right.

Two more MACFORMAT-binder-winning postcards: 'Mad Dog Shaving', sent in by A Williamson of Newcastle upon Tyne, and Jeff Koons's 'Pink Panther' (and friend, surely?), which by an uncanny coincidence was sent in by both A Williamson of Newcastle upon Tyne, who obviously has the same fabulous taste in postcards as us, and Gordon Elliott of Swindon, Wilts. Remember, whenever you write to MACFORMAT or enter a competition, an eyecatching postcard could win *you* a binder!

GOOD TO TALK

Got something to get off your chest or share with fellow Mac fans? Send your letters to 'Apple Talk', MACFORMAT, 30 Monmouth Street, Bath BA1 2BW. (The shorter it is, the better its chance of getting printed on these pages.)

- Got something a bit more detailed to say? Write to our 'Soapbox' section – see page 124 – or send us your thoughts on disk (in *TeachText* format would be ideal, so everyone can read 'em), addressed to 'Readers' Corner'. So long as they're not obscene or defamatory, we'll put 'em on our covermounted CD-ROM. Be sure to add your name and address on the disk, and please note that we can't return your disk afterwards.
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- All correspondence will get read and will be dealt with to the best of our ability. Please understand, though, that we can't manage personal replies, whether by telephone, mail, fax or e-mail – we can barely get the magazine out on time every month!
- If you have a problem with one of MACFORMAT's covermounted CD-ROMs or floppy disks, please do not return it to the editorial address. We have replacement disks here. The addresses for problem disks and CDs are on the disk pages – this month, page 8.

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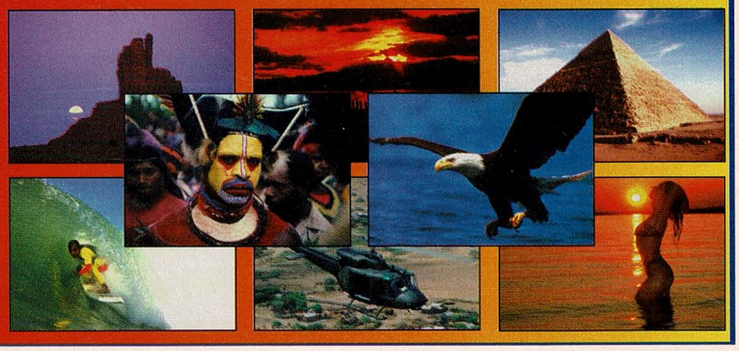

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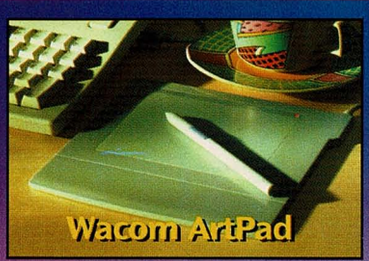

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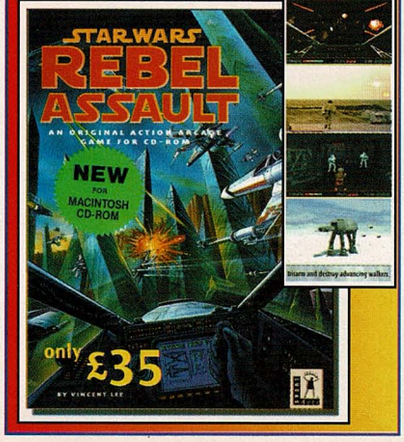

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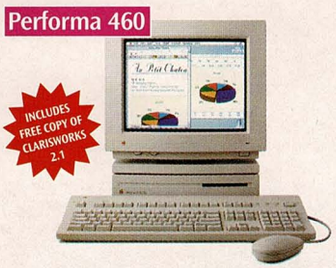

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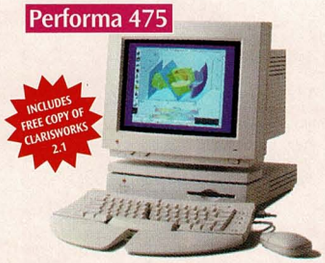

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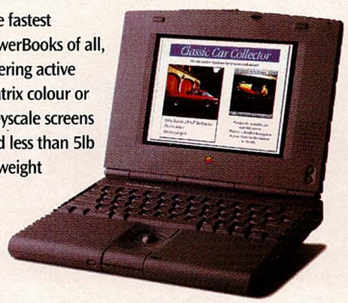

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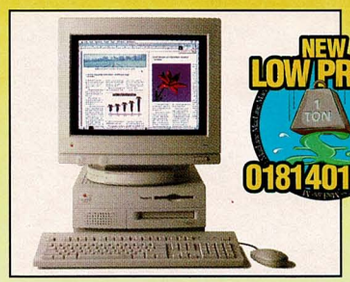

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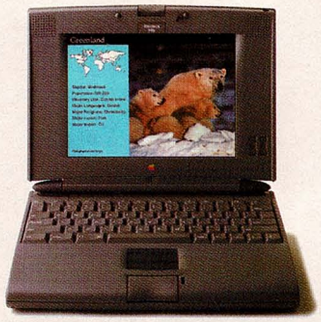

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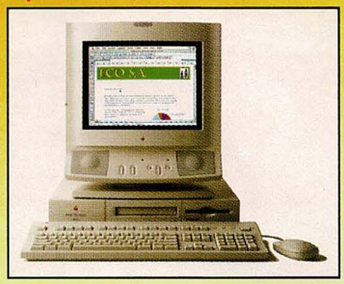

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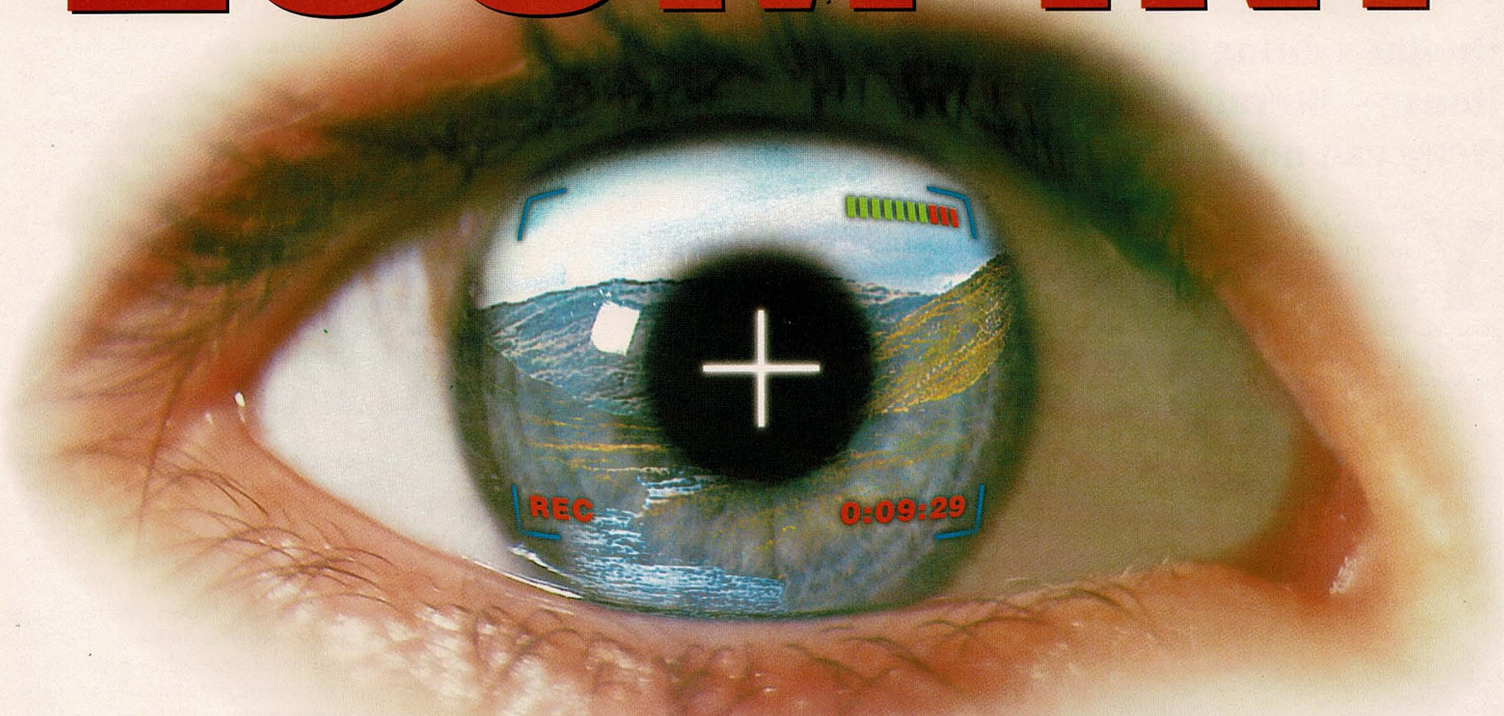


Video on your Mac means more than Video-CD and games featuring full-motion film. Macs are transforming video production and editing – here's how. Plus, Do It Yourself DTV: explore desktop video on your own Mac!

Blame it all on video tape. Film, that was easy. You could see the pictures frame by frame and edit with nothing more complex than scissors. But video tape... it was just metallic brown ribbon. The only practical way to edit it was to copy it...

You made a note of the scenes you wanted, then copied them in the right order to a new tape. If you then wanted changes, you had to copy the copy again. This was named 'on-line' editing, because you created movies in a direct line of descent from the original. But each copy lost some of the original quality.

In the late '70s a better idea arrived: 'off-line' editing. You could get a fully-edited film only one copying-stage removed from the original. How? Well, a video camera records a reference number, or 'time code', for each movie frame. So you make a duplicate of the original tape and edit *that* 'on-line'. When you get the sequence right, you make a note of which reference numbers go where – your 'Edit Decision List'. You can then go to the studio with your *master* tape and copy that in the same sequence as your fuzzy, but precisely edited, duplicate.

In 1990 came a better system – non-linear editing. You no longer had to make copies of copies at all, and naturally, it used a Macintosh.

The first step in this process is to digitise all the scenes or clips (or 'rushes') you'll want to use – the video equivalent of scanning in a graphic. The editing software can then display each clip on-screen, usually as a separate little icon, so you can put them in the right order just by rearranging the order of the icons – as easy as clicking and dragging. Not quite right? Move them around again. Want to shorten a scene? You can do that too, and lengthen it again, as many times as you want, with no loss of quality because you're not working on successive copies of a tape, just on digitised data in your Mac's memory. It's like word processing, really, but with images instead of words.

You're working on digitised data in your Mac's memory. It's like word processing, really.

As you'd expect, Mac-based non-linear editing is transforming the world of film and television. Recent movies such as *The Fugitive* and *The Getaway* were edited using Avid Technology's *Film Composer* – a top quality non-linear system. The BBC uses the TV version of the system, *Media Composer*, to edit *EastEnders*, *Panorama* and other 'fast-turnaround' programmes.

Of course, at this level it takes a pretty powerful computer, not to mention *gigabytes* of hard disk space, to handle all that digitised data. But believe it or not you can do the same kinds of things yourself on your own Mac – not at full-screen size, perhaps, with a more limited range of effects and at poorer resolutions, almost certainly, but the essentials are the same.

So join us over the next dozen pages as we zoom into the world of desktop video. Learn how TV documentaries are put together using Macs, then discover what DTV software can do for you – it could cost you as little as £200.

On this month's CD-ROM you'll find some examples of DTV-produced videos, including a video report on the Apple Expo show. On page 48 we explain how we did it with *Premiere*, and how you can do the same sort of thing using the cover disk demo of *VideoShop*.

Then we look at what kit you need for professional presentations or more modest uses. And finally, we have an exclusive offer that could get you started in full-screen, full-motion video capture and editing for half price.

So if you've always wanted to be a screen mogul, you needn't go to Hollywood – just bring the film studio to your desktop!

DTV at the BBC

On-line editing is making news at Broadcasting House – literally. *Panorama* and *The Nine o'Clock News* can now be cut and mixed entirely on Macs.

You may not realise it, but on average the picture on your television cuts to a new angle or another scene every six seconds. A typical 50 minute programme may contain between 600 and 1,000 'edits' (sound and picture cuts or transitions). No wonder it takes around six weeks to edit it.

The other reason it takes so long is that they've shot far too much footage. That's true whatever programme it is you're making, says Hugh Mason, a freelance producer/director currently working for the BBC. 'In the case of something like *EastEnders*, which is shot very tightly to a budget, they come back with perhaps only three or four times the amount of material that will be in the final programme. But a documentary grows much more organically out of the material – for instance, until you interview someone you never know what they're going to say. So you can easily come back with 20 times the amount of material.'

Facing that sort of task for every programme, film-makers like Hugh Mason have welcomed the arrival of Mac-based non-linear editing systems. Hugh recently completed a series on Information Technology to be shown on BBC 2 this month (see the 'IT Collection' box below), and it was the first time he had used the Avid *Media Composer* system. Its immediate advantage, he says, is that it puts the film-maker in touch with his material again.

Off-line editor Paul Burgess works with the Mac-based Avid *Media Composer* system (inset). Compare this with an on-line system (see 'Going On-line' box).

Cut! And paste...

'Editing on film is a slow process, but at least it gives you time to think and leaves you in touch with your pictures – they can be physically held in your hand. Video tape takes that one step further away – you can never see your pictures on the tape; you've just got this brown boring thing and it's really rather depressing.' But the Avid system on a Mac 'shows you little shots as if they were little bits of film – you can give each a name and "hang them up" as if they were film on a peg; it puts you much more in touch with what you're doing rather than being driven by the technology.'

What's more, because the system is completely digital, editing is 'non-destructive' – you can not only make changes but you can undo them again. It's like changing a manuscript on screen with your word processor rather than manually typing out a whole new draft. This frees you creatively and gives you the flexibility to try out different cuts, says Hugh.

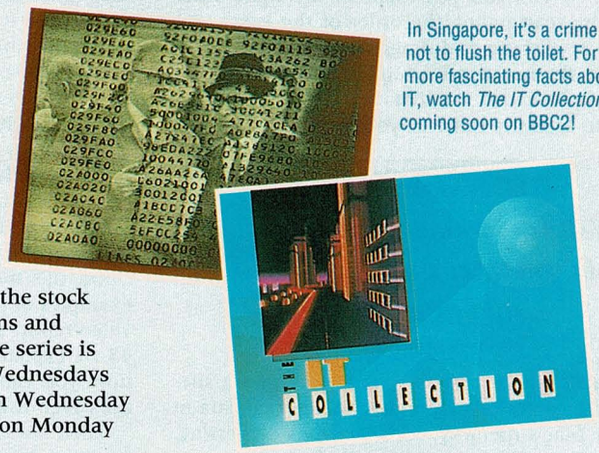
'The major, major advantage,' he goes on, 'is when you come to make a change part-way through a programme. If you have film, it's easy to take out a half-second – you simply chop it out. With tape, because you're not physically cutting the tape, that's impossible. So if you want to add a half-second to a shot midway through a 40 minute program, you have to copy off 20 minutes, make your change, then copy off another 20 minutes, and the whole thing has taken you probably an hour to make one half-second cut. The big advantage of Avid is that you can make your cut and it happens straight away.

'Not only that, but the system tells you exactly how much you've changed the length of your programme – if you're making a 50-minute film, it's no good being 52 minutes or 49 minutes, it's got to be 50 minutes plus or minus ten seconds, say.' If the editing side is analogous to a word processor's cut-and-paste facility, this is like an automatic word count. The analogy goes even further: the Avid system enables you to do a search for the labels you've given all your individual shots – so you can find

THE IT COLLECTION

The IT Collection explores the applications and social consequences of Information Technology, incorporating material from award-winning BBC factual series such as *Horizon*, *Tomorrow's World* and *The Net*. Programmes in the series cover how IT has changed art, design and the media; the impact of IT in the workplace, on finance and the stock market; how IT controls systems and machines; and the Internet. The series is being broadcast on BBC2 on Wednesdays 11.45am – 12.10pm, starting on Wednesday 18 January, and repeats begin on Monday 22 February at 1.00pm.

For more information and background materials, you can write to:
Samina Miller, Education Officer, Room 2308, BBC White City, London W12 7TS.
Or e-Mail: **samina.miller@bbc.co.uk**



In Singapore, it's a crime not to flush the toilet. For more fascinating facts about IT, watch *The IT Collection*, coming soon on BBC2!

Further information and Hypertext links to background information are available over the BBC Networking Club's World Wide Web pages at the following URL:
http://www.bbcnc.org.uk/

the clip you've called 'Peter close-up' by name.

Paul Burgess, off-line editor for the *IT Collection* series, points out another advantage of Avid: if you've got other Mac-based programs like sound editing or graphics packages, you can cut-and-paste into them. This means you can extract sound from your movie and manipulate it in something like *Sound Edit 16* to remove noise, say, or copy out images and retouch them in *Photoshop*, and then re-incorporate them into the *Media Composer* program.

But sound editors, and editors, still have a crucial role to play, Paul adds. Hugh agrees, emphasising again that a documentary grows organically and the editor has a great deal of creative input into the result. 'The human editor is not going to be replaced by this technology,' he says. 'Just as desktop publishing has actually freed up designers to do what they're good at doing, desktop video has freed up editors from being caught up in the nitty gritty of pushing buttons, cuing tapes, and all the rest of it.'

For the traditional editor, however, Avid's strengths are also dangers, says Paul, who has been editing off-line for about five years but was an on-line editor before that. 'On tape both the editor and the director have more thinking time generally. A lot of the time you're spooling through tape, which takes time, and there's a lot of processes that you just let the machine handle and you're sitting back discussing it. In an edit of six weeks you'd really be pushing the buttons for maybe two weeks or a week, spread over that period. A lot of the time is thinking and discussing and working things out. Avid works at the speed of light – you press a button and it's done. You can try out more ideas, but you don't take the time to think them through first.

'Avid is also more expensive,' Paul adds, 'so producers and production managers want you to get a job done a lot quicker if you use Avid.'

An on-line edit suite costs around £200 to £250 *an hour* to hire. This means that apart from all its other drawbacks, editing completely on-line is impossibly expensive. A tape-based off-line facility costs a much more affordable £600 to £700 per week, but is not capable of creating mixes or other effects, only simple cuts. 'It becomes very difficult to imagine what something is going to look like,' says Hugh.

Progress – at a price

A digital off-line suite like Avid can solve such problems. 'You can program in things like slow-motion effects, layering effects, mixes etc,' Paul explains, 'and it will show you a kind of preliminary version of that on-screen, and the same goes for sound. When you then take your Edit Decision List to the on-line suite, it implements all of that for you – and on the sound suite you can just watch the faders motor up and down automatically.' All this comes at a price: an Avid suite costs about £1,300 a week – still more expensive than tape editing.

The main factor is the cost of the equipment. The machines for on-line editing of professional-standard Betacam SP tapes cost half a million to a million pounds to buy. For off-line editing, shots are copied to a cheaper and more rugged format called Umatic, and the edit equipment costs perhaps £20,000. A Mac-based off-line suite can cost even less (see page 50), but the expensive thing is the monster hard disks you need to store that digitised footage.

Hugh and Paul edited *The IT Collection* at Head First Facilities in London's Soho (0171 287 2010), which boasts four Avid systems based on Quadra 650s (pretty humble machines now!) and has plans to go to eight. Head First uses disk arrays made by the Tyrell Corporation (didn't they make the Replicants in *Blade Runner*?) – sets of hard disks (each 1.6Gb) plugged together. The disk space needed depends on the quality at which you digitise; at AVR2 (roughly VHS quality, which is adequate for off-line work because there's no further degradation), one hour takes one gigabyte. This is remarkably low, but it would still be prohibitive to store the entire 20 hours or so of footage that comes back from shooting, so all that is digitised is a 'first cut' – for a 50 minute film, typically something around six hours.

'For off-line editing,' Hugh Mason says, 'it's fine to digitise at quite a low resolution to minimise disk space. But the highest resolution on Avid is pretty damn good – more than enough for corporate presentations, supermarket videos, that sort of thing – and the BBC is experimenting now with transmitting news footage and so on direct from the Avid. You don't go to the on-line stage at all.' BBC News Resources now owns something like eight Avid *Media Composer* systems, and *Panorama* will now be edited entirely on these systems.

'By taking pictures directly from the Avid we save hours in post-production,' says Nick Orme, picture editing organiser for BBC News Resources. 'We do not need to conform – or even sometimes to dub. This allows us to edit programmes literally hours before going on air.'

Time to change

Generally, however, Mac-based digital editing doesn't mean huge time savings, says Hugh Mason. Overall, he explains, a half-hour film might take four months to make: six weeks researching; two weeks setting up the logistics; six to eight days shooting, plus the travel time; then three weeks or so to edit. 'The actual time you spend in the edit process is not significantly reduced, but you can explore more options.'

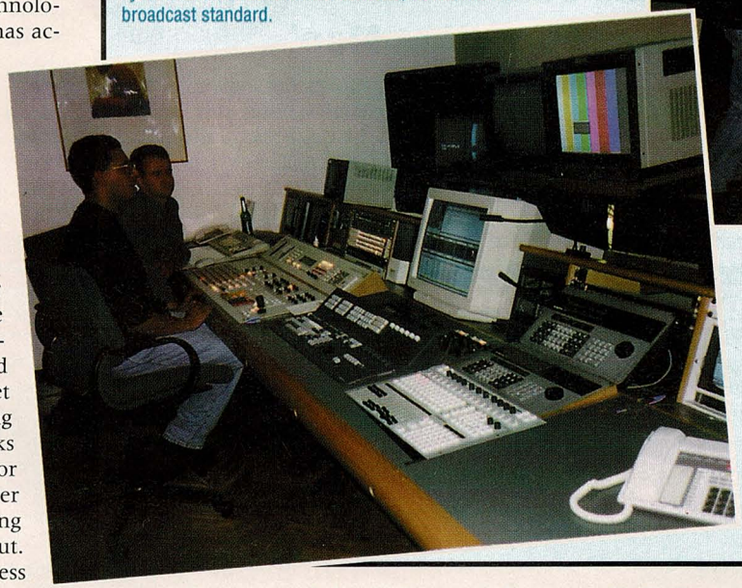
There are risks to counterbalance this advantage: it's tempting to tamper, for instance. But there's no doubt that Mac-based non-linear editing is transforming the world of film making – especially for those who want to move away from the full-scale facility house, or might never have had access to one. 'It's not going to make it possible for everyone to make *The Trials of Life* or *The Singing Detective* in their back garden,' Hugh says. 'But you'll be able to cut your home videos and to explore and learn the technologies, or play around with the sort of experimental stuff that until now has been very expensive to do.'

Alex Summersby

GOING ON-LINE

For most TV programmes, Mac-based off-line editing is not the end of the story. The Mac-produced Edit Decision List (EDL) has to be taken to an on-line facility, which generates a new master tape of the finished programme.

Director Hugh Mason and on-line editor Avtar Baynes 'conform' their master tapes at The Frame Store in London (0171 439 1267). From the back: the small keyboard in front of Hugh is the Titler; Avtar is sitting at the Vision Mixer; to his right is the Edit Controller; and nearest the camera is the Audio Mixer. A Mac-based non-linear editing system can include all these features, sometimes to broadcast standard.



The on-line facilities at The Frame Store include about £4million worth of equipment. Here Avtar Baynes loads a master Betacam SP cassette into one of a bank of editing machines. They're each worth around half a million pounds – and can do a bit more than the average VCR. Yet even this technology is being left behind: The Frame Store is planning to go totally digital, using 'real time disks'.

The director's

He cuts, he splices, and he dissolves. Andy Hutchinson gets his hands on DTV software, plants his bum in the director's chair and shouts 'Action Man'.

Try the demo of *VideoShop* on the cover disk – plus *Premiere* on the CD! See page 7

The speed with which technology outdates itself amazes me. Eight years ago we were all raving about digitisers, those whizzy peripherals that transformed a video-still into a computer image, and eight years before that we thought mirrored sunglasses were the height of fashion. But I digress. Technology moves on, expensive hardware gets cheaper and before you know it there's another one of those 'revolutions' happening. Desktop video is just such a revolution and it's waiting patiently in the wings for its three years of glory.

Since Apple released *QuickTime*, its proprietary video compression/decompression and playback system, just three years ago, we've all become accustomed to its benefits: tiny animations that last about ten seconds and then junk the hard drive. However, the men in white coats (with a small fruit on their breast pocket) at Apple have now come up with *QuickTime 2.0*. This vastly improved system is capable of running full-screen, full motion video on just about any Mac. To create your own movies from this system you need specialist off-line editing software that can take rough footage and transform it into seamless video. These programs enable you to import video, re-sequence it, tart it up and output it to a storage

THE ON-LINE ALTERNATIVE

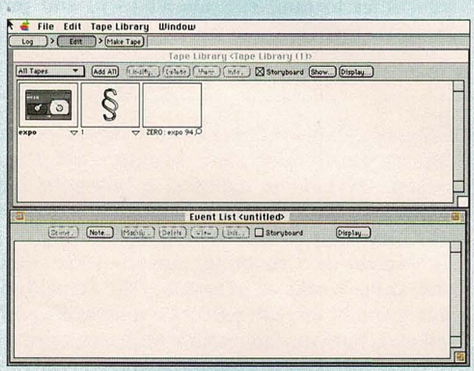
No matter how good your video capture system is, there's likely to be some sort of picture degradation during the transfer process. For this reason, many professionals still prefer to use on-line editing, even though off-line editing packages give the user an unprecedented level of control over the editing process.

On-line editing works by controlling a source and a storage VCR with the Mac operating in the middle as a controller. The source video contains the rough footage that you'd like to edit and the storage VCR contains a blank tape on to which you're going to transfer the edited footage. The Mac is used to find the appropriate clip of film and then transfer that sequence to the storage VCR. Some packages offer the kind of transition effects that are included as standard in off-line editing suites, but unless you're prepared to spend tens of thousands of pounds, you won't match their flexibility.

VideoDirector

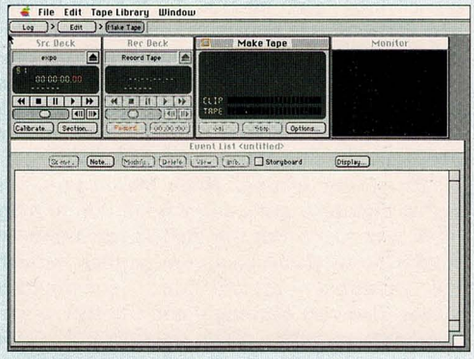
This package is about as basic as on-line editing gets. It includes a single floppy disk, a manual and a lead. In addition to this you will need an infra-red capable VCR and a camcorder or video with a Sony RC/LANC/Control C facility. The latter is the most important part of the set-up, because it enables the Mac to precisely control the source footage.

In operation it is all very simple to use. You locate the footage you would like to use on the source VCR and then tell the store VCR to record. There is a rudimentary event list function, but this isn't a lot of use as there is no support for time codes – only each VCR's built-in counters. The only real use for this program is for the rudimentary reorganisation of holiday videos. There are no transition effects, no filters, no edit decision lists and no titling functions – to be

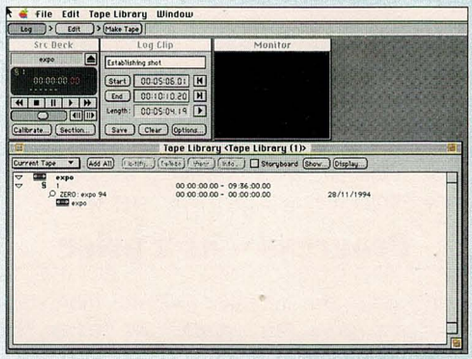


This is *VideoDirector's* Tape Library Window where you can view your sample storyboard based on graphic clip info.

The controls are designed to resemble those of a VCR, making it easy to control your source deck's functions from your Mac's screen.

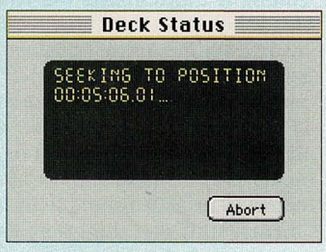


Here you're making a copy of your scenes in the right order on to a new tape, just like professional on-line editors.



Here is a logging sheet, where you log the time code from your source material.

Each clip has a log clip window where you can change your in and out points.



The Status display contains information about the current position of the source tape and the source deck.

cut

medium (such as a CD-ROM) or back on to video tape. Alternatively you can dispense with hard drive storage completely and use 'on-line' editing packages, which control VCRs in much the same way as professional editing suites do.

Adobe Premiere 4.0

Premiere is something of a standard in desktop video, in much the same way that *Photoshop* is in picture retouching; you can also tell it's an Adobe product by that rather healthy price tag. Version 4.0 of the package has been released in PowerPC native format, which means it runs rapidly and can cope with higher frame rates.

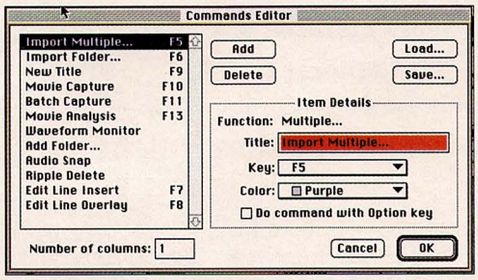
Premiere's Trimming window displays the frames on the left and right sides of each cut. You can see exactly where your in and out points of each clip are.

Premiere features a powerful selection of editing tools, set within a thoughtfully designed front end. These editing features are easily accessed thanks to the icon based windows for transitions, trimming, commands and layouts.

The latest version of *Premiere* (4.0) features true NTSC (American video standard) support; a batch processing function (which enables you to render a batch of projects at once); dynamic previewing, meaning you can stop, pause and start within the preview window; support for *Photoshop* filters; and a custom transition and filter list. Of particular interest is the stop frame / motion capture function that enables you to build up animations by grabbing a single frame at a time.

The disadvantage of using something like *Premiere* is that it'll take you a while to learn your way around its many features. The attractive front-end of the program disguises the sophistication of the features within and you should be prepared to spend a long time familiarising yourself with the program in order to get the most professional looking results. Despite the price, *Premiere* remains one of the best DTV packages on the market. It enables a humble Mac to create professional looking video sequences, which are on a par with those produced in a professional editing suite. Still, I can't help feeling that its dominance of the market is due more to the bundle of popular add-on video cards than its own merits.

The Commands window displays handy shortcuts for opening windows. You just click on the window you want and it will open. You can also set up your own command settings in the Commands Editor window and save them here.



This is *Premiere's* Commands Editor window. You can select the settings that you use on a regular basis and save them to the Commands window for ease of use.

You can preview your film from the command window, but you won't see its titles or effects, unless you've already compiled the footage using the preview or snapshot command.

- **Price: £669.75.**
- **Contact Principal on 01706 831831.**

MACFORMAT RATING 90%

VideoFusion

This heavyweight package is pitched at about the same price as *Premiere* and has obviously been designed to be direct competition to it. *VideoFusion* is primarily a *QuickTime* video enhancing package, which enables you to edit, splice and transform a series of clips into a longer 'movie'.

The program features an impressive range of transitions and includes a sophisticated morphing function. Transitions can also be custom built to your own design or added to by using *Photoshop* plug-ins such as *Kai's Power Tools*. Those transitional effects can also be used on individual channels, such as the red channel, giving an amazing degree of sophistication. The package lacks the simplicity of use associated with *Premiere*, but its healthy range of filters make it more useful for specific projects (such as pop promotion videos) than as a general video editing tool.

The program can combine movies by over-

honest you can do just as well by connecting two VCRs together directly.

- **Price: £99**
- **Contact Gold Disk on 01753 832383**

MACFORMAT RATING 40%

Video Machine

Meanwhile, at the other end of the market is this rather expensive set-up. At a very basic level this is just like *VideoDirector*, in that it uses a Mac to control source and destination VCRs. But that's where the similarities end, because this is the Rolls Royce of Macintosh based on-line editing packages.

The package uses the Mac as a conduit for video data. Analogue signals are pumped into the Mac where they are digitised and edited in real-time. The results are then output in real-time to the storage VCR. The transition, filter and special effect functions included in the program are superb and the use of video tape for storage means you don't need spectacular amounts of hard drive space. But if you can afford to spend thousands on a video editing system, I guess you can afford a few gigabytes of disk space.

- **Price: £3,440.**
- **Call Fast Electronics on 0171 221 8024.**

MACFORMAT RATING 90%

EDITING EXTRAS

There are a couple of problems associated with flashy video effects: either they get over-used or there's such a variety of them that it distracts the viewer from the actual footage – just watch MTV if you don't believe me. However the fact remains that bland wipes and fades look amateurish and boring, especially if they're used repeatedly. The selective use of other effects can lift the presentation quality of a video and to this end there are a few add-on packages for the more popular DTV programs.

Gryphon Dynamic Effects

Adobe *Premiere* is the prefered DTV package around at the moment, so it's not surprising that it's got more than its fair share of plug-ins. This popular library of 18 filters and two transitions enables you to create funky looking blends between clips of video.

The two transitions are simply updates of existing *Premiere* modules, but the filters are brand new. They include a Channel Delay, where the update of a particular channel is delayed to create a ghosting effect. For that old-fashioned look there's the Duotone, Jitter and Dust filters. The most sophisticated though are modules like Tempus, that enable you to dissolve an image into a cloud of pixels and then reform them. Given the variety of this package and the superb end results, it offers excellent value for money for existing *Premiere* users.

- **Price: £95**
- **Contact Softline on 0181 401 1234**

MACFORMAT RATING 87%

CoSA After Effects

This suite of filters works with any *QuickTime* movie, so owners of DTV packages other than *Premiere* can embellish their movies. This is the most sophisticated plug-in package available for the Mac and it offers a massive degree of accuracy over the effects of filters on objects.

Of particular note is the motion blur filter. This creates incredibly smooth blurs that are easily as good as those created on professional editing suites. The cost of this program is very high, but given that its filters will only really be of use to professionals, it offers excellent value for money and a virtually unmatched degree of control over the end result.

- **Price: £1,816**
- **Contact Techex on 01926 431055**

MACFORMAT RATING 90%

See also

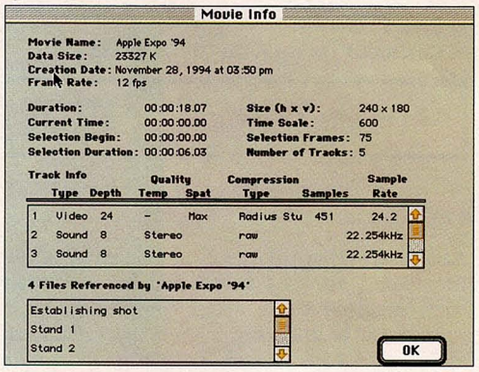
Gradient Experience
This package isn't available over here yet, but its selection of 200 transition effects makes it an interesting looking package.
- **Price: $139**
- **Contact Cinetic on 0101 497 219 43290**

Post View
Again, I don't know much about this American package, but it's a sound synchronising add-on, so it might be worth a look.
- **Price: £1,059**
- **Contact Digidesign on 0181 875 9977**

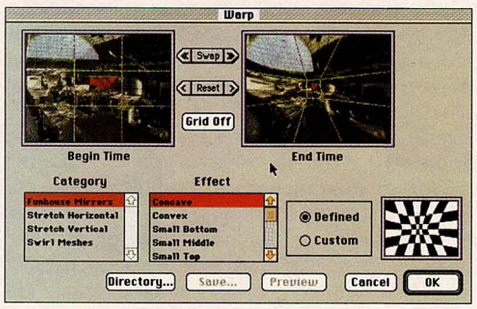
laying one clip on top of another, leaving the chroma, transition and blend attributes up to the director. Of particular note is the storyboard function, which enables you to select a particular image from a clip and then use this to explain a sequence. Given the in-depth explanations of the blend and transition options, it's obvious that *VideoFusion* is aimed at the more professional user. Pop videos – yes, wedding videos – no.

- **Price: £645.**
- **Contact Computers Unlimited on 0181 200 8282.**

MACFORMAT RATING 84%


Movie Info
Movie Name: Apple Expo '94
Data Size: 23327 K
Creation Date: November 28, 1994 at 03:50 pm
Frame Rate: 12 fps
Duration: 00:00:18.07
Current Time: 00:00:00.00
Selection Begin: 00:00:00.00
Selection Duration: 00:00:06.03
Size (h x v): 240 x 180
Time Scale: 600
Selection Frames: 75
Number of Tracks: 5
Track Info
Type Depth Quality Temp Spat Compression Type Samples Sample Rate
1 Video 24 - Max Radius Stu 451 24.2
2 Sound 8 Stereo raw 22.254kHz
3 Sound 8 Stereo raw 22.254kHz
4 Files Referenced by 'Apple Expo '94'
Establishing shot
Stand 1
Stand 2
OK

VideoFusion's Movie Info window enables you to set the in and out points for each of your frames.



VideoFusion has many effects already set – and it also has a custom option where you can create your own.

VideoFusion QuickFlix

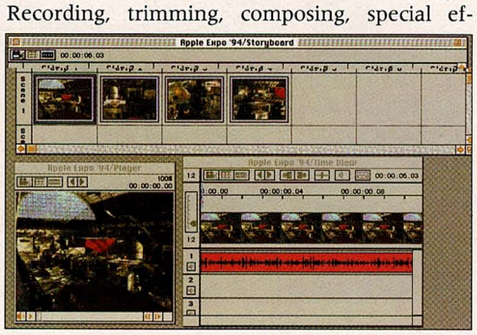
This program is designed specifically for the editing of the more humble *QuickTime* movie. *QuickFlix* enables you to record digital video, edit it, add special effects, tweak the sound, title it and layer it. The program has been designed with the amateur in mind, meaning the whole process of FMV editing has been simplified.

All of the package's main functions are easily located thanks to its uncluttered design. Recording, trimming, composing, special effects, transitions, titling, sound and playback performance all appear in their own boxes, rather than from pull-down menus.

The simplicity of this program disguises its sophistication. It's surprisingly easy to create fluid movies from a series of *QuickTime* clips and the addition of text or special effects is as easy as typing text into a word processor. In fact the whole program has the feel of a word processor, complete with cut and paste functions. Wedding videos – yes, pop videos – no.

- **Price: £151.58**
- **Contact Computers Unlimited on 0181 200 8282.**

MACFORMAT RATING 86%

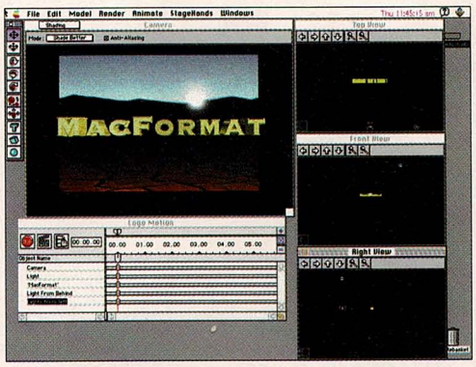


You can see a preview of your movie in a corner of the screen while you carry on making changes to each frame.

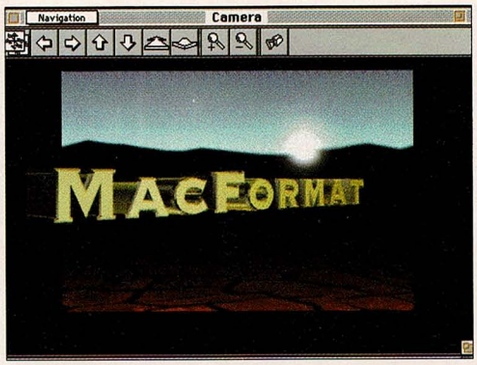
Avid VideoShop

If you want features, you've got them with *VideoShop*. It's an all-singing, all-dancing program that operates both as an editing package and a special effects generator. It includes 29 filters and 49 transitions and a very sophisticated logo rendering plug-in that can create flashy looking objects from words or shapes.

As with *Premiere*, all of the program's main functions are accessed from a series of windows. These enable you to storyboard your movie, edit it, apply special effects, layer and composite multiple movies and add titles and



Avid *VideoShop 3.0's* funky plug-in *LogoMotion* enables you to create moving logos or titles to combine with your film.



Once you have created your logo you can preview its movement and then save it as a *QuickTime* movie.

graphics. The whole lot can then be combined into one single movie that integrates video, text, graphics, music, voice overs and animations. Phew.

Version 3.0 of *VideoShop* comes in both Mac and PowerPC flavours and includes a funky plug-in called *LogoMotion*. This is really a mini rendering package that includes variable camera and light sources, extruding and lathing. Once you've created your logo, you can then save it as a *QuickTime* movie and layer it over another clip. This latest version also includes full *QuickTime 2.0* compatibility, an improved user interface, enhanced editing facilities and MIDI and 32-bit alpha channel support. It's a comprehensive package that does everything *Premiere* can, but at half the price. Wedding videos – yes, pop videos – yes, and even medical videos – yes.

- **Price: £351.**
- **Contact Avid Technology on 0171 434 0122.**

MACFORMAT RATING 91%

MediaFactory

This brand new DTV package is the best of the crop. It's another comprehensive editing program, but it combines the ease of use of *QuickFlix* with the capacious features associated with *Premiere* – and yet it's still the cheapest package on the market.

Constructing a movie is a painless process. You decide on the resolution you'd like to run the video at, import your clips, drag the ones you want to use to the main project window and then edit them. The simplicity of the program is typified by the text function – to add text to a clip you simply drag the words from the text window to the project window.

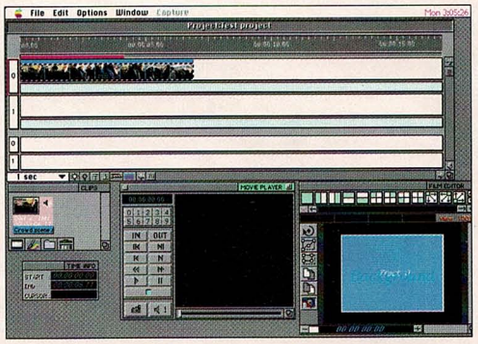
The low price of the program isn't reflected in the number of options available. There are 22 filters and 48 transitions (such as motion blur, twirls and grey scale) available, as well as the more standard rotation, text, mask, shadow and transparency capabilities, and up to 99 audio and 99 video tracks. The brilliant front-end enables you to get at all these functions quickly and easily, which means you spend more time creating videos and less time hunting through an instruction manual.

MACFORMAT Classic

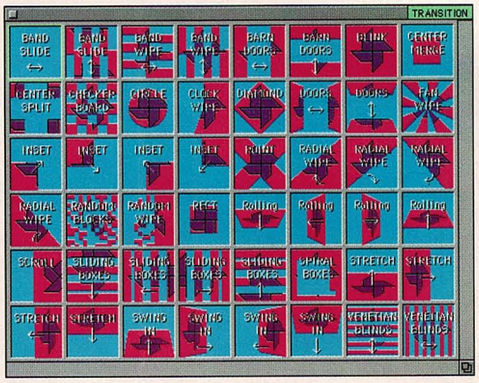
- **Price: £205.**
- **Contact Computers Unlimited on 0181 200 8282.**

MACFORMAT RATING 93%

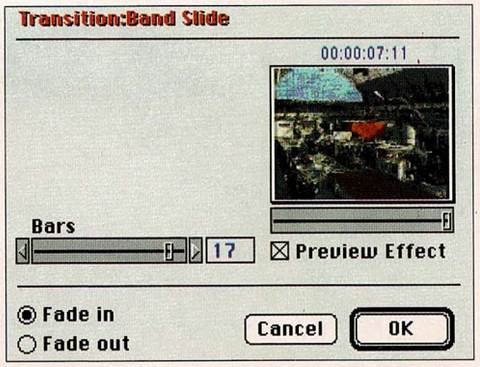
WIN one of ten copies of MediaFactory – see page 130



This is *Media Factory's* main project window where you create your movie and add in the effects.



Media Factory's transition window enables you to visualise each effect before you decide which one you want to use.



MediaFactory enables you to preview each video effect.

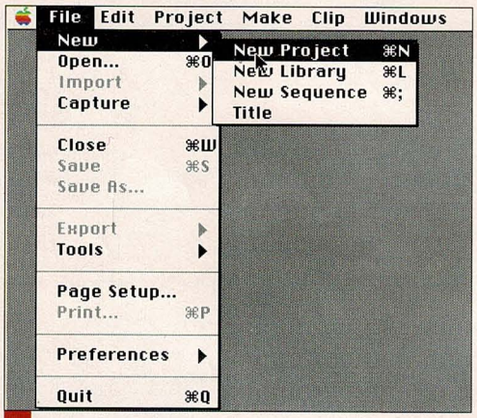
DTV SOFTWARE HEAD-TO-HEAD

Product	Premiere 4.0	VideoFusion	QuickFlix	Avid VideoShop	MediaFactory
Price	£669.75	£645	£151.58	£351	£205
Transition effects	65	Unlimited	25+	49	48
Storyboard	Yes	Yes	Yes	Yes	Yes
Titling functions	Yes	Yes	Yes	Yes	Yes
Stop motion	Yes	No	No	No	No
Edit Decision List	Yes	No	No	No	No
Previews	Yes	Yes	Yes	Yes	Yes
Batch Processing	Yes	No	No	No	No
Filter/Special effects	50	Unlimited	12	200	22
Custom filters	Yes	Yes	No	Yes	No
PowerPC native	Yes	Yes	Forthcoming	Yes	Forthcoming
MIDI compatible	Yes	No	No	Yes	No
QuickTime 2.0 compatible	Yes	Yes	No	Yes	Yes
Ease of use	80%	70%	90%	70%	90%
Value for money	80%	70%	80%	80%	90%

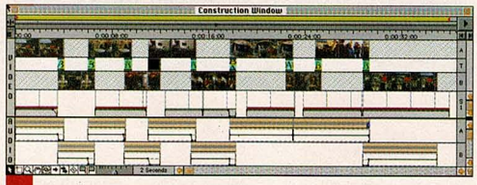
Tricks of the

Premiere 4.0

Premiere 4.0 has six windows: the project window, the construction window, the info window, the transitions window, the preview window and the commands window. The most important windows in this instance are the project, the construction and the preview; the others are used for information and quick access/short cuts.



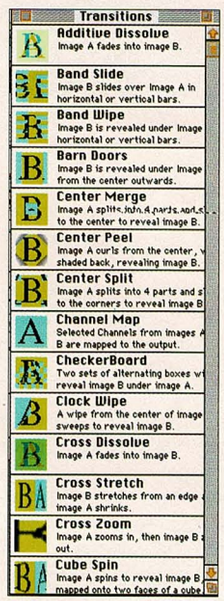
1 Open a project and set the preferences. Go to **Import** from the **File** menu and choose a clip. Open the clips that you want in your sequence and put them into a folder (clips should be stored in named folders and given names that describe their content). The clip window has in/out point buttons, play, stop, forward and rewind. You can also view the clip at different resolutions. Select an in/out point either by playing and stopping or by using the jog/shuttle control.



2 Now for the fun part. Lay your clips out on the construction window and select all your in and out points. Either drag the image on to a track on the construction window or go to the **Edit** menu and select **Add Clip**. Once the clip is on the construction window you can close the clip window – if you want to open the clip window again double-click on the clip you want to work on in the construction window. The frames can be viewed one at a time and can go up to a one minute timeline. But if you do go down to one frame, certain points may be difficult to find, so you can use the magnifying glass from the tool bar. Just click on the magnifying glass, drag it over the particular point you want to see and click until it magnifies the image to the desired size.

3 The in and out points of the clip in the construction window can be changed by dragging one end of the clip to expand it out. If you need to fade the sound down you can double-click on the audio frames and an audio clip window will appear. Here you can set markers at the point where you want the sound to decrease. When you close the construction window you'll see a blue marker showing the point where the sound will decrease. You will then need to drag this line down – all you have to do is place your cursor on the marker and drag down.

Premiere offers you various useful tools that you'll need; the magnifying glass, the scalpel and the double selection tool are probably the most handy for most projects. The scalpel is used for cutting into your clips to separate them or cut parts out. The selection tool enables you to move clips together and move them as a group on the construction window.


Transitions
Additive Dissolve
Image A fades into image B.
Band Slide
Image B slides over Image A in horizontal or vertical bars.
Band Wipe
Image B is revealed under Image horizontal or vertical bars.
Barn Doors
Image B is revealed under Image from the center outwards.
Center Merge
Center Peel
Image A curls from the center,
Center Split
Image A splits into 4 parts and
Channel Map
Selected Channels from Images
CheckerBoard
Two sets of alternating boxes
Clock Wipe
A wipe from the center of image
Cross Dissolve
Image A fades into image B.
Cross Stretch
Image B stretches from an edge
Cross Zoom
Image A zooms in, then image B
Cube Spin
Image A spins to reveal Image B

4 Select transitions such as fades, dissolves, zooms etc. Most packages come with a great selection of effects and transitions, enabling you to do wacky and wonderful things to your clips like morphing, adding filters, extruding and mosaic-ing. Open the transitions window and choose a transition such as a zoom. Drag it on to the transitions track and double-click on it. You can change its direction and preview what it will look like by clicking on the **Show Actual Sources** box. If the transition has a border you can change the thickness. You can also apply filters to the clip, although this can add a lot to the rendering time. There are many different filters and you can always add to them with extra plug-ins.

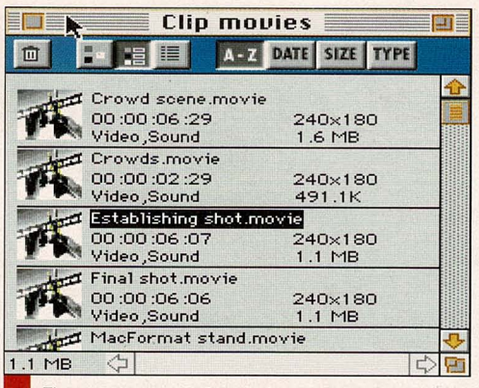
Videoshop 2.0

VideoShop 2.0 also has six windows: the sequencer window, canvas window, clip window, folder window, recording/titling window and project size window. This last one is the first one you come to and it's here that you set your preferences. Once these are set click **OK**. The sequencer window, the canvas window, the clip window and the folder window will appear.

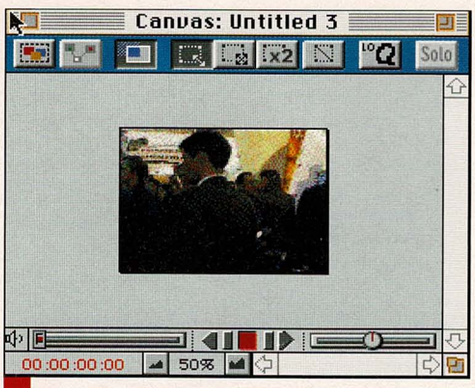
ON THE COVER DISK

You can practise your video editing skills with the *VideoShop* demo on this month's MACFORMAT cover disk. The demo is fully useable, but the Save function is disabled.

You will find the *VideoShop* demo and the film clips of the Apple Expo '94, explained here, on this month's additional floppy disk – see page 7 for details.



1 There are two ways of accessing your clips: first through the menu and second from the folder window. Double-click on the Hard Disk icon to open the folder window and you can browse through the folders to find the clips. The clips will be displayed in a folder and you can play them by clicking on them. Double-clicking on them will open the Clips window. Select the in and out points, grab the clip with your cursor and drop it into the sequencer window. It will then be placed in the first slot on the track. Close the clip window and build up a sequence with the rest of the clips. The frames can be viewed at one frame at a time or will go up to one minute.

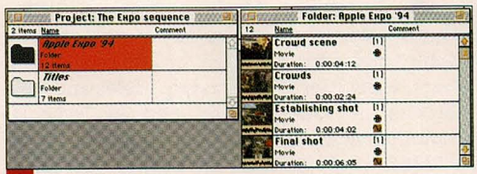


2 The clips are then played out in the canvas window. This window has its own tools. Drag the time shuttle in the canvas window all the way to the left. The clips will then play in the order that they appear in the sequencer window. The clips can be easily re-arranged: just drag a clip with your cursor from the sequencer window and move it across to the left; the clip underneath will then move accordingly. You can view your clips either as a sequence by clicking **Storyboard View** or one frame at a time by selecting **Time View**. This helps you fine-tune your sequence – you can re-arrange and delete frames and apply filters and effects.

trade

Curious how we created our Apple Expo film on this issue's CD-ROM? Here's some insights, plus how you can get into the cover disk *VideoShop* demo.

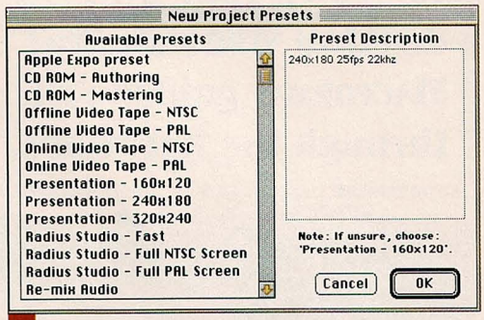
5 Now you can add some titles – either motion or still titles. To do this go to **New** under the **File** menu and select **Title**. A title window appears, with a selection of tools. Click the text tool and type the title on the canvas – in this case, 'The Apple Expo '94'. Choose a colour for your text. Then go to the **Project** menu and select **Add This Clip**. A dialogue box will ask you to save it. The clip will then be added into your folder. Drag it on to the S1 Track in the construction window where you want the text to appear. Select the frames of text and select **Transparency** from the **Clip** menu. In the transparency dialogue box there is a pull-down menu; choose **White Alpha Matte**. In the right hand corner is a preview window. Click the peeled page icon and this will show your text overlaying a clip. Click **OK**. The S1 track is a superimpositions track, which enables you to put images and text on top of each other. There are effects you can add either to the clip or to text such as rotation, flips, zoom and many others. Go through the same procedure with the remainder of the text. Select **Clip** from the **Motion** menu and have a play with the different settings in the construction window. If you click on the **Show All Sources** box you can see the preview of the clip and the text's motion.



6 Once you're happy with your clips you can preview your video. Drag the yellow bar (at the top of the construction window) across, aligning its edge to your clip's in and out points. Eeither press **[return]** or go to the project window and select **Preview**, or you can drag the cursor across the timeline to get a vague idea of what your video will look like.

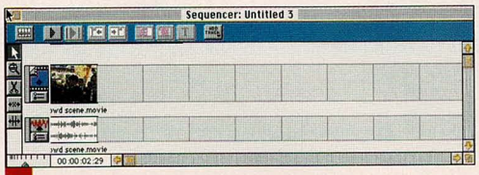
JARGON BUSTERS

Digitise: convert images into electronic form so they can be stored in your Mac.
Genlock: a device for synchronising your Mac with a TV or VCR.
RGB, S-Video and Composite: different types of video output, using different cables and connectors. RGB stands for Red, Green and Blue. Separate signals are sent down the line for each colour, so signal quality is high. Composite combines the RGB information into a single signal sent over a single line, so accuracy is poorer. S-Video carries two signals, luminance (brightness) and colour, so quality is slightly less than RGB but normally better than Composite.
In and out points: the points where each video clip begins and ends.



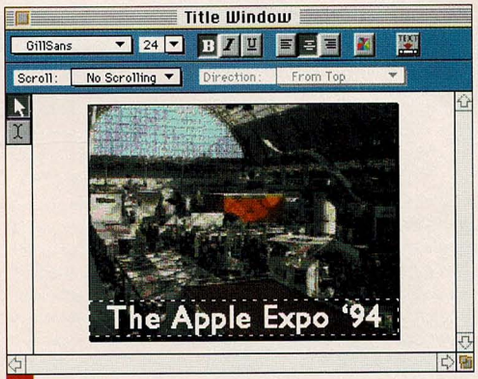
7 If the clips and their attributes look good it's time to make the movie. Select **Movie** from the **Make** menu and you'll get a window that gives you lots of choices. Try and capture the original pictures at a good resolution so the quality won't change too radically when outputting the final movie. Output your work area as a *QuickTime* movie with video and audio selected at 160 x 120 resolution, the type selected as 'full size frame', the audio at 11kHz at 8-bit mono and in one second blocks. Click **OK**. Compression depends on what your hardware can handle. For ours we chose **Cinepak** from the **Compression** menu, 12 fps, 24 key rate and set the data rate at 200k per second. (Any reliable double-speed CD-ROM drive can maintain that rate.)

When the movie has been made you can throw out all the initial clips – this is where the named folders come in handy. **Making** a movie – depending on its size – can take longer than previewing, thanks to the amount of information. For example, a sequence of around 3.16 minutes with a full screen resolution of 768 x 576 pixels at 25 frames per second and a data rate of 2.3 Mb per second took around four hours to render and took up 461.6 Mb of disk space. This disk space will be doubled by your initial clips, so by throwing them out you'll save space and you'll be able to capture some more. Of course at a lower resolution such as 160 x 120 the rendering time and space taken up will be considerably less than a full-screen full-motion video.

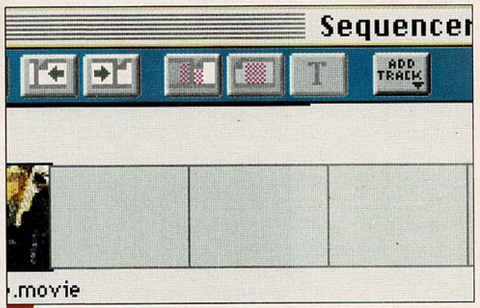


3 As you play your sequence through the canvas window, a line shows the progression of your clips in the sequencer window, giving you an idea of where to go if something doesn't look right. As in *Premiere 4.0* you can scroll your cursor across the frames and the sequence will be played out from the canvas window.

Applying special effects and filters is relatively easy in *VideoShop 2.0* with the filter button in the sequencer window. Select some frames from a clip, then click the filter button. A dialogue box appears. Choose a filter – the effect can be viewed while it's rendering. If you don't like it you can change it to one more suitable – you could try emboss. Now add a transition, but make sure that **Time View** is selected in the sequence window. Locate where you want the transition to begin and end. Click the **Transitions** button and a dialogue box will appear. Find one you like and have a look at the preview. Select **Zoom** and click **Build Effect**, then click **OK** and the transition will be added.



4 Now you can add a title track to the sequence window. Click the text tool and a title window will be displayed. Type in your chosen title – in this case 'The Apple Expo '94' again. From this window you can add some basic scrolling and colour or put a gradient on the text, as well as change the font size and other attributes. Click the **Insert** button and this will add the title to the sequence. Preview the sequence through the canvas window to see the text scroll.



5 If you have run out of video and audio tracks then you can add more to your sequence window. Click the **Add Track** button and choose a track to be added. This is useful when you are superimposing multiple images together. In *VideoShop* you can fade music in and out, just as you can in *Premiere 4.0*. Position the cursor over the rubber band tool in the audio track, and the cursor changes into a pointed finger tool. Click and drag this downwards. This will then fade the music out. Now you can preview the whole sequence in the canvas window.

'Making' a movie in *VideoShop 2.0* is similar to *Premiere 4.0:* go to the **File** menu and select **Save As Movie**. The dialogue box appears with compression and output options.

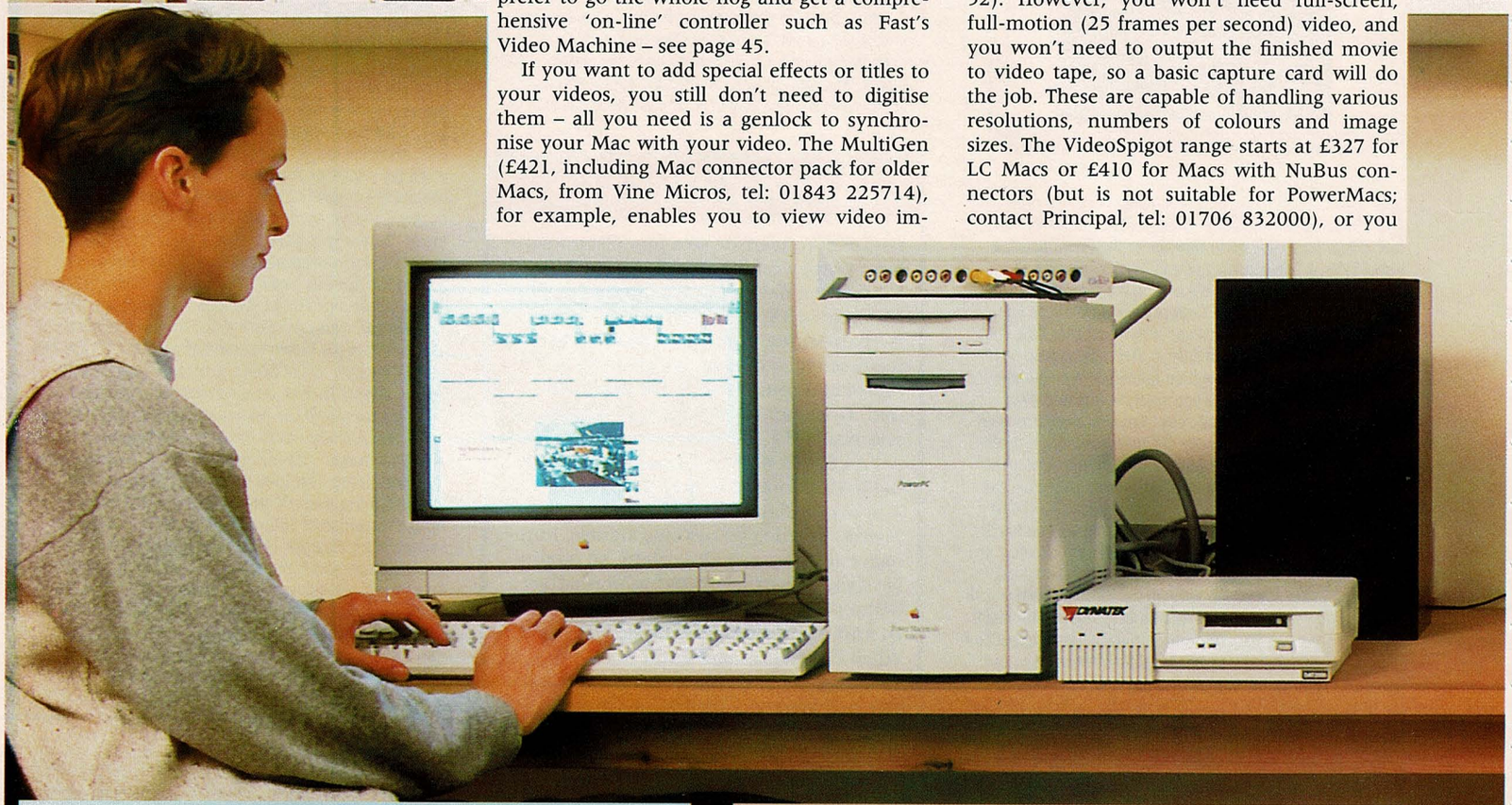
Lights, camera, Macintosh!

What kit do you need to set up your own desktop video studio? MACFORMAT guides you through the hardware.

The hardware you need for desktop video depends on what you want to do. For basic tape editing – that is, using your Mac to control your VCR – you don't need to digitise any footage, so you don't need a big hard disk or any extra hardware, except for the necessary cables and connectors. A software-only package such as *VideoDirector* (£99 from Gold Disk, tel: 01753 832383) could do it all for you, or you might prefer to go the whole hog and get a comprehensive 'on-line' controller such as Fast's Video Machine – see page 45.

If you want to add special effects or titles to your videos, you still don't need to digitise them – all you need is a genlock to synchronise your Mac with your video. The MultiGen (£421, including Mac connector pack for older Macs, from Vine Micros, tel: 01843 225714), for example, enables you to view video images, use your own graphics software to overlay text or graphics on to them or mix 'live' video with previously stored images, and then output to TV, VCR or both via RGB, S-Video or Composite connectors.

If you want to produce videos for playback on-screen or via CD-ROM, you do need extra kit to get the footage into your Mac – unless you already have an AV Mac, which has video input and output facilities built-in (see page 52). However, you won't need full-screen, full-motion (25 frames per second) video, and you won't need to output the finished movie to video tape, so a basic capture card will do the job. These are capable of handling various resolutions, numbers of colours and image sizes. The VideoSpigot range starts at £327 for LC Macs or £410 for Macs with NuBus connectors (but is not suitable for PowerMacs; contact Principal, tel: 01706 832000), or you



MACINTOSH

■ Power Macintosh 8100/80 with CD-ROM drive and 32Mb of RAM – you need plenty to manipulate all those film clips! A 17-inch monitor is adequate for all the different windows you get on-screen with editing software, but some systems support two monitors, which makes things much easier.

■ One gigabyte of disk space is fine if you're creating videos for CD ROMs – the widely accepted norm for the size of images on CD-ROM is 240 x 180 pixels and they don't need a very high 'depth' (number of colours) or frame rate, so the digitised images can be quite compressed, and a double-speed CD-ROM drive (which can sustain a data playback rate of 200K per second) is fast enough to play them back. (See the 'Room to Move' box below.) However, if you need full-screen, full-resolution video capture, depending on how much footage you've got and how much you compress it, you'd be well advised to allow around 4Gb of disk space. Note that working with large images slows down the process considerably.

■ Dynatex DAT 2000 with *Retrospect* archiving software. This stores all the video footage and anything that is taking up a lot of space on your hard disk. DAT drives can hold anything from a gigabyte to 16Gb of data, depending on format and compression level – for more details, see the 'Hard Alternatives' storage feature on page 56. However, they can't access data randomly, so they aren't a good choice for storing the clips you actually need to work on. A hard disk array is better for that purpose.

DTV CONNECTIONS

■ Video capture card from Radius *VideoVision Studio*, which digitises the incoming video signal and compresses it. Radius *Studio Player* software is included, which enables you to play movies out from the Desktop again straight through the output on the Radius panel into your VCR/monitor, with the card handling decompression as well. Various cards offer different options, but with all of them it is possible to choose the data rate at input (that is, how many frames per second it captures and how much information is digitised for each frame), plus the rate of compression – the more you compress the image and the lower the quality you choose to save at, the less disk space your footage takes up. This particular card, however, does not fully support *QuickTime*, so to compress movies for CD-ROM we have to use *Premiere's* other compression options, such as Cinepack, which means we can't get movie files as small as we'd like.

■ Radius *VideoVision Studio* Panel (or 'breakout box') with In and Out ports, comes bundled with the capture card. There are left and right audio In ports, S-Video and RGB Output ports, plus two sets of S-Video and RGB Input ports. These all require phono plugs – check that your VCR or camcorder can handle phono connections for input or output. Phono plugs are less popular on VCRs nowadays, with SCART leads being the household choice, and camcorders mostly carry S-Video outputs, though some offer phono outputs.

could try the Falcon video capture card (£695 from Graphics Unlimited, tel: 01223 312808). For video editing software, see page 44. You'll need at least a Mac IIci, 8Mb or more of RAM, and plenty of hard disk space.

If you want something more ambitious, such as full-screen, full-motion video with titles, sound and effects, you'll need at least a Quadra-level Mac, probably 1Gb of hard disk space, and possibly one of the capture-card-plus-software bundles listed in the 'Professional Bundles' box below. Alternatively, you can put together your own kit to meet your particular needs. Video digitisers with varying capacities are available from VideoLogic (tel: 01923 260511), Computers Unlimited (tel: 0181 200 8282) and Fast Electronic (tel: 0171 221 8024), starting at about £1,200 or so, or you could try the expandable MoviePak Presenter bundle from RasterOps (see the special offer on page 53). Choose the editing software you prefer (*VideoShop* comes bundled with the RasterOps), add an output card such as the RasterOps Video Expander 2 (RasterOps tel: 01256 59283) or the Harlequin 2 from Graphics Unlimited, or expand your

Sound set

■ Some DTV editing suites can handle sound editing as well, or you can use specialised software (see also page 99). We opted for a separate sound editing set-up, based on a Studio Soundcraft Folio 12:2 mixing desk, with Technics cassette deck and Sony DAT deck. The sound output from these and from the Mac (running *Sound Edit Pro16* software) goes through a Yamaha A100a amp, with Yamaha Nearfield monitors (the speakers).

Video system

■ A TV – a PAL monitor is best for capturing your footage through.
■ A Sony TR2000 Hi8 camcorder. Focus, white balance and exposure can be altered manually. Hi8 format is near 'broadcast-quality', but relatively affordable.
■ A Sony EVC500 Hi8 player to play back the footage into the Mac, saving wear on the camcorder's heads and leaving it free for other filming. The camcorder's own AV or S-Video outputs are otherwise just as good.
■ A domestic VCR for recording on to video tape. VHS is now standard for home VCRs, but the poorest quality, and RGB input would be much better than SCART.

Professional Bundles

This is a selection of some of the professional video systems on the market. All are capable of producing broadcast quality video to British (PAL) or American (NTSC) standards. The majority of cards will also enable you to capture sound at CD-quality (44KHz). When you're choosing a system, one important area to consider is compression. This dictates how much hard disk space you'll need to store your video footage. The different cards' compression capabilities depend on factors like which Mac you're using and the size and quality of the picture you're producing, so a simple comparison in this table would be misleading. Software to enable you to capture video is included, but some packages also include editing software such as *Premiere*.

Name	Avid Media Suite Pro	Avid Media Composer 4000	Data Translation Media 100	Graphics Unlimited Merlin	Radius VideoVision Studio 2.0	RasterOps MoviePak2 Pro
Price	£23,441.	£64,625.	£8,454.	£2,932.	£5,698.	£5,288.
Requires	Mac IIfx or Quadra with NuBus slot.	Quadra 950, two hard drives (2Gb and 230Mb) and two 20-inch monitors included in price.	Quadra 840AV or PowerMac 8100/80 or better, System 7.5, 48Mb of RAM, 1Gb hard drive.	Mac II with NuBus slot or better, System 7 and 8Mb of RAM.	Mac II with NuBus slot or better, System 7.0.1 and 8Mb of RAM.	Mac II or better, System7, 8Mb of RAM, 500Mb hard disk.
Video in	Composite, S-Video, RGB.	Composite, S-Video, RGB.	Composite, S-Video.	Composite, S-Video, RGB, YUV.	Composite, S-Video.	Composite, S-Video, RGB.
Video out	Composite, S-Video, RGB.	Composite, S-Video, RGB.	Composite, S-Video.	Composite, S-Video, RGB, YUV.	Composite, S-Video.	Composite, S-Video, RGB.
Video capture	PAL 25fps & NTSC 30fps.	PAL 25fps & NTSC 30fps.	PAL 25fps & NTSC 30fps.	PAL 25fps & NTSC 30fps.	PAL 25fps & NTSC 30fps.	PAL 25fps *or* NTSC 30fps.
Audio capture	16-bit at 48KHz.	16-bit at 44KHz.	16-bit at 44KHz.	16-bit at 48KHz.	16-bit at 44KHz.	Needs extra card.
Software	Avid's own software.	Avid's own software.	*Media 100.*		Adobe *Premiere* and *VideoFusion.*	Adobe *Premiere* and *Media Grabber.*
Contact	Avid Software 0171 434 0122.	Avid Software 0171 434 0122.	Data Translation 01734 796100.	Graphics Unlimited 01223 312808.	Computers Unlimited 0181 200 8282.	RasterOps 01256 59283.

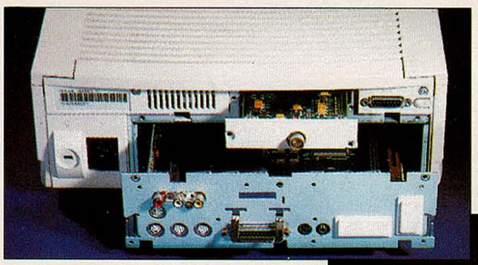
system as you require.

This is the level of set-up we use in the Future Publishing multimedia studio, detailed on page 50-51. Above that, you're probably looking at a broadcast-quality off-line edit suite, complete with hard disk arrays for storing all that footage, a PowerMac with heaps of RAM and SCSI accelerator cards, plus professional-quality video and audio gear. All up, at least £25,000. If you're seriously thinking of spending that sort of money, talk to the suppliers in the 'Professional Bundles' box on page 51. They'd love to hear from you!

The simple alternative

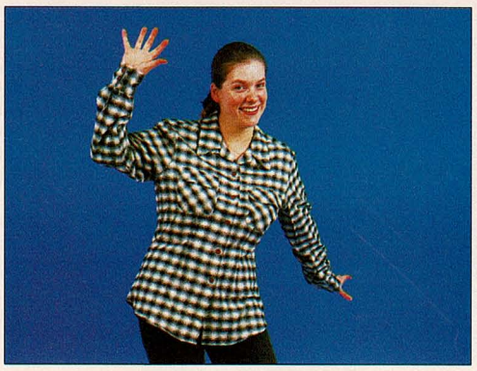
Does all this talk of cards and capture rates sound rather daunting? Well, you might not need to worry about any of it – if you have an AV Mac (like the Centris 660AV or Quadra 840AV). These have video input and output capacity built-in, with Composite and S-VHS video In and Out ports, plus RGB video out, and, of course, all the extras inside to make use of these.

This means that you can watch TV on your Mac screen, output Mac-generated presentations on to a TV or video tape and even use the Mac's mic to record a voice-over as you do so. The output isn't quite 'production-studio' quality, Apple says, but it should match VHS video. More importantly, you can digitise incoming video signals without an extra capture board – at a *QuickTime* movie size of 160 x 120 pixels (and depending on the speed of the hard drive), you can achieve a frame rate of about 10 to 20 frames per second, which is adequate for a convincing illusion of motion.



Pull-out drawers give you easy access to the Performa 630's expansion slots, for goodies like the TV Tuner card...

But if you want proper compression and decompression, full-motion or full-screen display, you do need to buy an extra board. The only one currently available for AV Macs is the Radius SpigotPower AV (£1,169 from Principal, tel: 01706 832000), which promises real-time 'hardware-assisted' video compression of full-screen, full-colour PAL video at 25 fps. (But you can only get full-colour capture, editing or playback if you have more than the standard 1Mb of Video RAM fitted in your AV Mac; otherwise, you're limited to 256 colours. And you only get a choice of full-screen or quarter screen resolution.)



Why would you want to do DTV anyway? Well, even if you only want to fool around with your home movies, it gives you so much creative power – such as the potential to 'chroma-key' a Mac-generated background behind your own films.

The AV Macs have now been discontinued, so you might find some around at real bargain prices. Plug-in cards that give a PowerMac some AV capability are promised but have not yet appeared. Apple's current multimedia machine is the Performa 630, which is designed with pull-out trays into which you can plug expansion cards. One of these, the Apple TV Tuner, enables you to tune into up to 181 terrestrial, satellite and cable channels, including Teletext. More importantly, a Video-In card enables you to input an S-VHS or Composite signal from a TV, VCR or camcorder, and thanks to a custom video chip you can capture this to hard disk at 15 frames per second. The Performa 630 TV Plus bundle, including all of this plus *VideoShop* (as well as *ClarisWorks* and a grab-bag of CD-ROMs), costs £1,699. You can buy the TV Tuner Kit for about £265, but the 630 is the only machine it fits at the moment. For details, contact Apple on 0800 127753.

How about video-in without a video card, a digitiser or even a camcorder? The Connectix QuickCam looks for all the world like a golf ball sitting on an ioniser, but it's a video camera that can input four-bit (greyscale) images at up to 240 x 320 pixels at a rate of 15 frames a second – straight into your Mac's serial port and on to your hard disk. It's just £163 (from Computers Unlimited, tel: 0181 200 8282) and it comes with rudimentary editing software that enables you to take *QuickTime* clips and do basic cutting, copying and inserting of footage. All you need is *QuickTime 2.0*, and that's yours on the MACFORMAT covermounted CD-ROM.

So what are you waiting for? Whatever you want to do, from professional-level video editing to just playing around with a few *QuickTime* clips, the world of desktop video is as close as your keyboard.

Alex Summersby & Wendy Smith

With a Video-In card you can input an S-VHS or Composite signal from a TV, VCR or camcorder, and you can capture this to hard disk at 15 frames per second.

ROOM TO MOVE

Mac-based video systems have one big hurdle to clear: digitised footage results in huge file sizes. It's not hard to see why. The PAL TV system used in the UK has a resolution of 768 x 576 pixels (picture elements). Using a maximum of 256 colours ('8-bit' colour – the colour information for each pixel is stored in eight bits or one byte), each full screen takes 768 x 576 x 1 = 442,368 bytes. At 25 frames per second, *one second* of full-screen video needs 442,368 x 25 = 11,059,200 bytes or 11Mb. Use 'full-colour' instead and you need 24 bits per pixel – 33Mb per second, or 1,900Mb per minute.

Nobody could afford enough hard disk space to hold more than a few minutes of video. And no SCSI device made can transfer data fast enough to play back 11Mb per second – the average is just 3.5Mb a second.

Solutions? *QuickTime* movies the size of postage stamps with fewer colours, poorer resolution and a frame rate as low as 15 frames per second (about the slowest for convincing motion, though sometimes people go as low as 11). Or some form of compression.

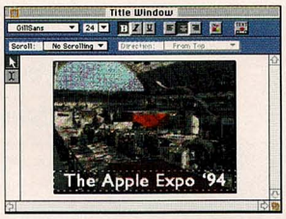
The most common compression system, JPEG, is capable of several levels of compression, trading off size against quality. JPEG is built into capture cards for the Mac, and it's one of the reasons you need one. *QuickTime 2.0* can also support MPEG compression, which squashes files even smaller by saving not whole frames, as JPEG does, but only the *differences* between frames. However, MPEG encoding is more time-consuming (real-time input is at present impossible), the hardware is more expensive, and it does raise new technical problems – for example, can you make frame-accurate cuts if you haven't saved whole frames in the first place? Several manufacturers, including Apple, have announced that they are working on MPEG playback cards for the Mac, but none are available yet.

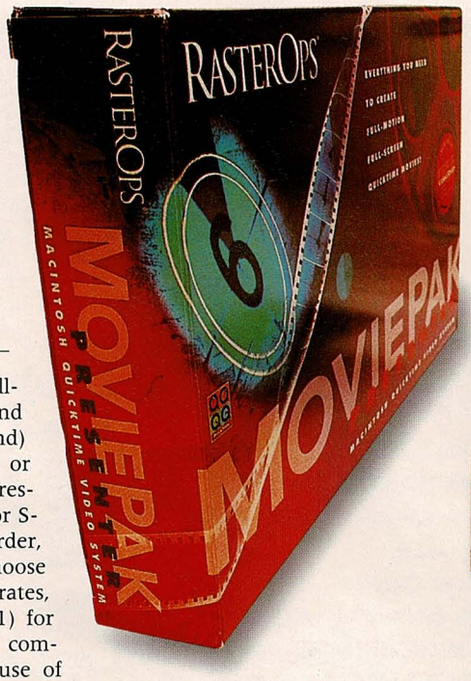
Exclusive half-price offer!

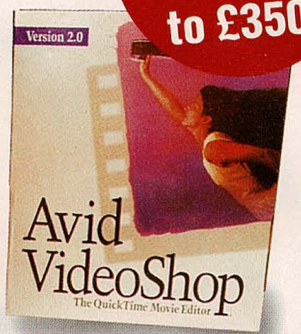
Everything you need to create full-motion, full-screen *QuickTime* movies – RasterOps' respected MoviePak Presenter bundle for half price!

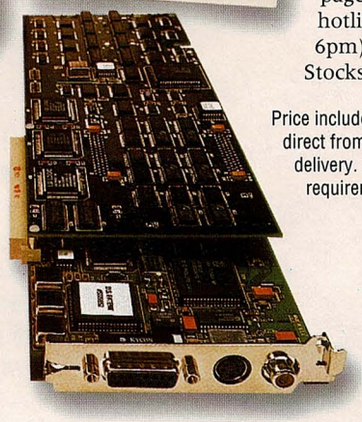
Do you want to give your presentations real impact? Do you want to unleash your creativity and produce interactive multimedia, CD-ROMs or video? Or do you just fancy playing around a bit with movie clips on your Mac? Whatever your reason for thinking about desktop video, if you want to create full-screen, full-motion *QuickTime* movies, RasterOps' MoviePak Presenter is just right for you.

MoviePak Presenter is a complete, ready-to-install video record/edit/playback package. It includes all the hardware and software you need to digitise video images, compress them for most efficient use of your hard disk space, edit them and play them back. What's more, its modular design means that as your needs grow, you can simply add upgrades that do precisely what you need, as and when you need them.









What can it do?

MoviePak Presenter provides full-motion (30 fields) capture and full-screen (60 fields per second) playback from your hard disk or RAM using motion-JPEG compression. You can select Composite or S-Video input from your camcorder, VCR or other source and choose from a range of compression rates, from very low compression (2:1) for maximum quality to very high compression (100:1) for optimum use of your hard disk space. Or if you prefer you can even display live video from your TV, VCR, videodisc or camcorder, anywhere on your screen, at up to 640 x 480 resolution.

The board supports full 24-bit photorealistic colour – a palette of 16.7 million colours – and works with Apple 13-inch or 14-inch colour monitors at 640 x 480 full-screen resolution, with the added benefit of hardware pan and zoom and 'extended Desktop'.

RasterOps' *MediaGrabber* software enables you to select compression settings, to re-size and rescale the video window, adjust the video colour, and add special effects. Avid *VideoShop* is included, giving you a complete video editing suite – for details of what it can do, see page 44.

The card is easy to install in a single NuBus slot, and unlike some other cards is fully *QuickTime* compatible. Its RGB interlaced or non-interlaced output gives you the option of recording your movie out to video tape with an optional RasterOps Video Expander 2 encoder.

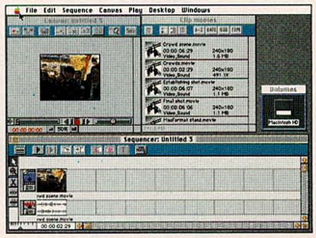
■ Requires: Mac II or later (although frame capture and playback may be limited by slow CPUs). One free 14-inch NuBus slot, at least 8Mb of RAM, 80Mb hard disk, System 7.0 or later and a 13 or 14-inch colour monitor. Please state if you require audio recording but don't have a sound card or an AV Mac. Most camcorders and VCRs include the necessary Composite or S-Video cables.

Includes VideoShop – worth up to £350!

All this normally sells for around £1,995 plus delivery, but if you order direct from MACFORMAT you pay only £999, *including VAT and delivery* – that's *half price*!

That's right! For the price of a colour scanner or a couple of those awful digital cameras, you can have *real, full-screen, full-motion video* instead! To order yours, use the order form on page 109 or contact our mail order hotline on 01225 822511 (8.45am – 6pm) and quote order code MFROPS. Stocks are limited – order now!

Price includes delivery via normal post within Europe direct from RasterOps. Please allow 28 days for delivery. For orders outside Europe or special requirements, please telephone before ordering.



YOU GET ALL THIS...

The MoviePak Presenter bundle includes:

■ RasterOps 24STV card, offering 640 x 480 (NTSC) or 384 x 288 (PAL) resolution, hardware pan and zoom, S-Video and Composite input, RGB output to optional Video Expander.

■ RasterOps MoviePak daughtercard, offering motion-JPEG compression from 2:1 to 100:1, 30 fields per second (NTSC) or 25 fields per second (PAL) capture, 60 fields per second playback.

■ RasterOps software (*MediaGrabber* for capture and playback, drivers and extensions, plus plug-ins for *Premiere* and *VideoShop*).

■ Avid *VideoShop 2.0* (comprehensive video editing software – for details of what it can do, see page 44).

■ Full after-sales support direct from RasterOps. Full details are included with the package when you receive it.

The MoviePak's modular design means you can expand the system later with:

■ RasterOps Video Expander 2 (for output to tape using Composite or S-Video).

■ RasterOps 24MxTV and 24XLTV cards (to add resolution and inputs/outputs).

■ RasterOps MoviePak2 daughtercard (for 60 fields per second capture).

■ RasterOps Expresso 35mm slide scanner.

■ Adobe *Premiere* editing software.

These are available through the usual retail channels. For enquiries, contact RasterOps direct on 01256 59283.

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All prices quoted are on the basis of payment with order. The Mac Zone accepts Visa, Access, MasterCard, Connect and Switch as well as cash, postal orders and cheques, however cleared funds are required before the goods are shipped.

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Sheetfeeder Capacity
1st tray – 100 sheets of paper or 20 envelopes
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Media Options
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Dimensions
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Weight 23.2 kg

Includes
45 Scaleable typefaces (35 Intelifont™ & 10 TrueType)
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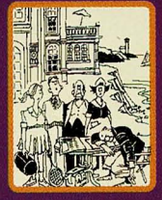

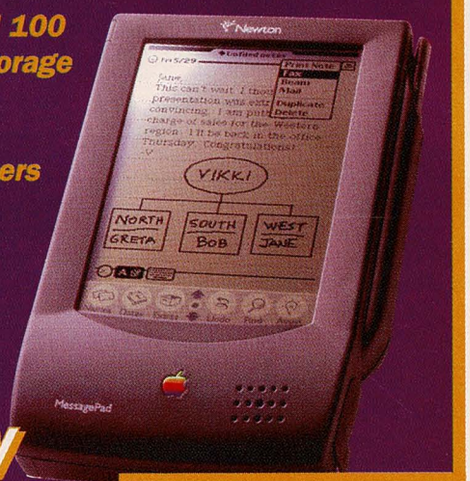

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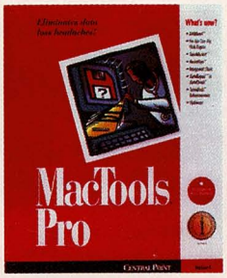

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HARD alternatives

Confused between flopticals and opticals? Don't be. Derek Smith reviews storage technologies...

Once upon a time, in a land not so very far away, there was a Mac. This Mac could be started with a double-density floppy disk, and all its programs were run from floppy disks. There was no need for a noisy hard drive, which only a king could afford.

Fairy tale? No, just ancient history. When the original LC was designed, Apple planned for it to have two floppy drives and no hard disk. Those days are nothing but a fond memory, and now the Performa 630 comes with a minimum hard disk of 250Mb.

Even so, many people need more and more disk space every day. This will be especially true if you get into desktop video. With a five minute *QuickTime* movie taking around 30Mb of disk, you'll need a huge amount of space to store your work. There are quite a few different options open to you, and what's best will depend on what you're after – and your budget.

The prices quoted here are incredibly approximate and represent an average of the better value drives. To get the best deal, make sure you shop around.

External hard drives

The simplest way of getting more storage space is to buy another hard drive. Like all the external devices discussed here, they attach to the SCSI connector at the back of your Mac. A few need special software drivers installed, but most just plug in and appear on your Desktop, ready to be used the next time you start up.

Hard disks have come down in price dramatically over the last few years with a one gigabyte (1,000Mb) disk costing around £650. At this price, buying an external hard drive from time to time, rather than the removable disk technologies below, is a serious option. But there will be times when only a removable disk will do – for example, when you want to send data to people through the post.

Pros:

- **they're very reliable;**
- **they're the fastest storage option;**
- **they're economical if you only need to store a few gigabytes.**

Cons:

- **it's difficult to send drives by post;**
- **they're expensive if you need very large amounts of storage.**

Costs:

- **170Mb drive – £220.**
- **540Mb drive – £350.**
- **1Gb drive – £650.**
- **4Gb drive – £2,000.**

Contact:

- **Wave, Thame Systems, Mygate, Computer Capability, Mac & More or Frog Systems (see page 58).**

The latest Bernoulli drive can store 230Mb of data on a single disk and is compatible with all previous Bernoulli drives.

Bernoulli 5.25-inch

Bernoulli drives are similar in design and execution to SyQuest drives. For some reason, these just have not sold very well compared to SyQuests. But the situation is reversed in the PC world, so a Bernoulli drive can be useful if you expect to exchange disks with PC owners. Otherwise there is no particular advantage to buying a Bernoulli drive in preference to a SyQuest, except for the fact that all Bernoulli drives use 5.25-inch disks. This means that unlike SyQuest drives where there are two standards, Bernoulli drives are always compatible with all previous capacities.

Currently there are many disk capacities, although you would have trouble getting hold of

EVER DECREASING SYQUEST DRIVES

The 5.25-inch SyQuest drive is very common and can store up to 200Mb on a single disk.

SyQuest 5.25-inch

Currently the most popular form of removable disk drive is the SyQuest. It's basically an adapted hard disk drive in terms of function and technology. Originally designed and made by the SyQuest company, 'SyQuest' drives are now made under licence by many different manufacturers.

Although similar to a hard disk, SyQuest does share one thing in common with the floppy disk. It has a cover to protect the disk inside, and this slides back to enable the drive to read the disk. With a floppy, this is fine as it doesn't need to be air tight, and a little dust is not critical. With hard disks though, dust is deadly. This is why an external hard disk is completely air tight and cannot be opened up.

Although the mechanism tries to ensure that dust has a hard job to get into the removable disk, it cannot be absolutely perfect. SyQuest drives are reasonably fault tolerant and often dust won't have any effect, but sometimes errors will occur, especially with the larger capacity disks.

There are currently three disk capacities: 44, 88, and 200Mb. The original 44Mb disks are very common, but it's hard to buy a 44Mb drive as they're no longer made. MacWarehouse has some stock, however, which it's selling for around £115. The larger capacity drives can read and write to smaller capacity disks, although for a bizarre technical reason, large capacity drives write slowly to lower capacity disks. A 200Mb SyQuest writes to a 44Mb disk at a ninth of the speed that a 44Mb drive can. However, there is no difference in reading times.

Originally there were some reliability problems with the 88 and 200Mb SyQuest drives. These now seem to have been sorted and the drives are now reasonably reliable.

Pros:

- **most large companies have one;**
- **they're a tried and tested technology.**

Cons:

- **the disks take up a lot of room;**
- **they're about two thirds the speed of a hard disk;**
- **they're adversely affected by magnetic fields and dust.**

Costs:

- **44Mb drive – £115 (disks £55).**
- **88Mb drive – £400 (disks £65).**
- **200Mb drive – £520 (disks £75).**

Contact:

- **Frog Systems, Wave, Key Exchange, Formac or MacWarehouse.**

some of the smaller drives. Capacities include 35, 44, 65, 90, 105, 150 and 230Mb drives.

Pros:
- they're popular in the PC world;
- the disks are only one size.

Cons:
- they're rare in the Mac world;
- the disks are large;
- the disks are more expensive than a SyQuest disk.

Costs:
- 150Mb drive – £450 (disks £90).
- 230Mb drive – £550 (disks £100).

Contact:
- Iomega.

Optical 3.5-inch

The first thing to say about opticals is that they're not flopticals (discussed later), despite having a similar name. In fact, optical drives should be called magneto-optical, but only pretentious people do call them that. The complete name does, however, give a clue to the technology inside it. The 'magneto' bit hints at the disks being made of a magnetic material, while the 'optical' part of the name hints at the use of a CD-ROM-like laser read/write head. Exactly how a drive can use two different technologies to work is beyond me, and irrelevant unless you're a rocket scientist who fancies having a go at fixing one.

Optical drives are growing quickly in popularity, and while nowhere near as common as SyQuest drives, they're far from rare. The reason for their popularity stems from the fact that the disks are much smaller and cheaper than SyQuest disks. They're also more robust, and do not degrade over a long period of time. They are therefore useful for archiving data that'll be held for a long time.

Drives are available in three capacities – 128, 230 and 384Mb, although the latter is very new and untested. Each of the drives can read and write smaller capacity disks.

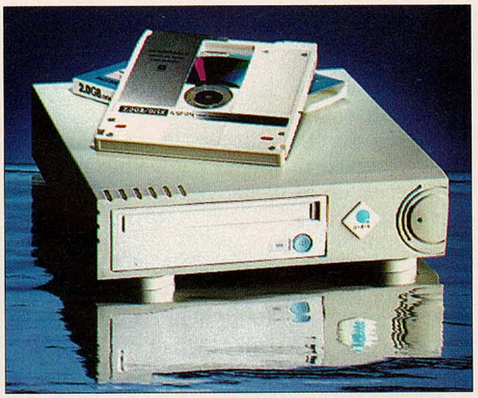
The 3.5-inch optical drive is rapidly finding popularity, but the initial cost of the drive can be daunting.

Pros:
- they're becoming widespread;
- the small disks take up very little room;
- the cheap disks mean the cost per Mb is relatively low;
- they're not affected by magnetic fields.

Cons:
- they're about half the speed of a hard drive;
- the drive is relatively expensive.

Costs:
- 128Mb drive – £650 (disks £25).
- 230Mb drive – £750 (disks £35).
- 384Mb drive – £1,000 (disks £50).

Contact:
- Mygate, Wave, DPL, Thame Systems or Principal.



The latest 5.25-inch optical drives can store up to 2Gb of data on to a disk, but will set you back at least £3000.

Optical 5.25-inch

The 5.25-inch drive uses the same technology as the 3.5-inch drives, but offers much greater capacities. Currently there are two capacities: 650Mb and 1.3Gb. The drives aren't cheap, but are good value if you have lots of data to store.

It should be noted that the 1.3Gb drive takes double sided disks that need to be turned over to access the full 1.3Gb. Effectively each disk is two 650Mb disks stuck together.

Pros:
- they're effective for mass storage;
- the disks mean a very low cost per Mb.

Cons:
- 1.3Gb disks need to be turned over;
- the drives are expensive.

Costs:
- 650Mb drive – £1,800 (disks £60).
- 1.3Gb drive – £2,400 (disks £75).

Contact:
- Mygate, Wave, DPL, Thame Systems or Principal.

continued overleaf

SyQuest drives are available as external and internal drives. This internal model is made by SyQuest itself.

SyQuest 3.5-inch

These are basically the same as their 5.25-inch brothers, but use a newer technology. They come in 105 and 270Mb capacities.

Although a 270Mb drive will accept 105Mb disks, you can't interchange disks between the 5.25 and 3.5-inch standards.

Note that just as the 88Mb drive had problems when first released, so the 270Mb drive has some reliability problems. One main retailer has recently stopped selling them for this very reason. It may be wise not to buy one just yet.

Pros:
- Small disks take up less room.

Cons:
- Not as widespread as the bigger, 5.25-inch SyQuests.

Costs:
- 105Mb drive – £380 (disks £55).
- 270Mb drive – £550 (disks £65).

Contact:
- DPL, Frog Systems, Wave, Key Exchange or Formac.

SyQuest 1.8-inch

SyQuest has launched the tiny SQ1080. Instead of using the SCSI connecter, this device is intended to plug into the PCMCIA socket on the latest range of PowerBooks. So if you own a PowerBook and want removable storage then this is probably the best option for you. Disks hold 80Mb of data and weigh just 18gms, which means you can fit several neatly into your pocket.

If you need a lot of storage for your PowerBook or Duo then the SyQuest SQ1080 is ideal.

Pros:
- they're tiny and lightweight;
- they have a connector for PowerBooks.

Cons:
- they have a maximum storage of 80Mb;
- they're expensive.

Costs:
- 80Mb drive – £400 (disks £50).

Contact:
- SyQuest.

Floptical

Nice idea, shame it never worked. Floptical drives can read and write 21Mb disks, which compared with the other drives may seem very little. However, the floptical drive had one very clever trick up its digital sleeve – it could read and write ordinary double density and high density floppy disks.

The destiny of this device should have been to replace the high density disk drive in being built into all new Macs. If this had occurred, you would be able to fit 15 times the amount of data on to a disk, but still use old floppy disks as well. It didn't happen.

The drawback was price. The drives were expensive and it was an untried technology. Also, it would have meant greater incompatibility with PCs. Instead of being a leap forward, flopticals are a bit of a dead duck, and unless you know you need one, you don't.

Pros:
- **they can read and write floppies;**
- **they're faster than a normal floppy.**

Cons:
- **they're expensive;**
- **they're very rare.**

Cost:
- **21Mb drive – £350 (disks £20).**

Contact:
- **Key Exchange.**

Floppy

Let us not forget the humble floppy drive. With high density disks only holding 1.4Mb of data, they're going to be woefully inadequate for most applications. But at least everyone has one, so they're ideal for sending data through the post. Do remember that programs such as *StuffIt* and *Compact Pro* can not only reduce the size of files, but also split an archive across several floppy disks. This means that floppies are still a viable option for sending files of up to around 10Mb.

Pros:
- **everyone has a floppy drive;**
- **they're cheap.**

Cons:
- **they have very limited storage space;**
- **they're slow.**

Cost:
- **1.44Mb drive – £280 (disks 50p).**

Contact:
- **Key Exchange.**

DAT

Digital Audio Tape is beginning to be popular in the music world and is coincidentally ideal for computer use. It delivers the quality of CD, but the disks are completely sealed like hard disks. The drawback, and you knew there would be one, is they cannot provide random access, but have to spool backwards and forwards.

This lack of speed means that files and software can't be loaded directly from DAT. Instead, DAT is used purely as a form of backup and needs special software to make it work. Disks do not appear on the Desktop like a hard drive or removable disk. Make sure that your DAT drive comes bundled with backup software; *Retrospect* is one of the best.

There are two different standards, DDS1 and DDS2, and two different size tapes, 90 and 120 metres. Because there is very little difference in price, a DDS2 drive that takes 120 metre tape is probably your best bet.

The capacity of DAT drives can be very confusing indeed. Basically, DDS1 drives hold two gigabytes and DDS2 drives hold four gigabytes. Hardware compression means about twice that amount of data can be stored, which means the drives are often referred to as 4Gb and 8Gb respectively. But because compression of four times can be reached for certain type of data, drives can be referred to as 2-8Gb and 4-16Gb.

Wave manufactures a range of high quality DAT drives for backup of large amounts of data.

Pros:
- **they have a huge storage capacity;**
- **the disks are very cheap.**

Cons:
- **they can only be used for backup;**
- **they're extremely slow;**
- **the drives are expensive;**
- **the tape deteriorates over time.**

Costs:
- **DDS1 drive – £800 (90m tape £10).**
- **DDS2 drive – £1100 (120m tape £20).**

Contact:
- **Wave, Mac & More, Ambar, Frontline or Principal.**

Recordable CD-ROM

Fancy pressing your own CD-ROMs? A few years ago the costs were sky high, but they have plummeted and CD-ROM writers are now – relatively speaking – affordable. However, recording to a CD-ROM is a slow process and uses special software. You can't just drag icons across on to a blank one.

Prices for CD-ROM writers vary wildly from under £2,000 to over £7,000. One of the main reasons for variations in price is that some contain an internal hard drive and some don't. This brings me to thermal recalibration. Sounds exciting, doesn't it? When you're pressing a blank CD-ROM the data has to be provided at a steady and even rate. Unfortunately most hard drives have a problem doing this. Either they are too slow or they recalibrate. This is a process where a disk stops occasionally to re-adjust itself because it has warmed up and expanded. This will cause problems. The easiest way to deal with this is to buy a CD-ROM writer with an internal hard disk that's designed for the job.

Kodak's new PCD Writer 225 is available for £3,350 and can record audio as well as computer data.

CD-ROMs are useful for sending data to companies, because every firm has a CD-ROM read-only drive and CD-ROMs are lightweight. Certain types of people will also benefit from the fact that the data cannot be altered – accountants, for example.

Rather unwieldy and expensive for the mainstream user at present, recordable CD-ROMs certainly have their place among all the other technologies discussed here.

Pros:
- **CD-ROM is a very popular format;**
- **the data cannot be altered;**
- **the disks are robust.**

Cons:
- **the drives are very expensive.**

Costs:
- **Drive – £2,000 to £7,000; (disks £20).**

Contact:
- **Reflection Systems, Ambar or Thame Systems.**

Derek Smith

This list of contacts is a very rough guide. There are many more companies selling hardware. For further information, check out the adverts in MACFORMAT.

Phone numbers:
- Ambar, tel: 0296 435511
- Computer Capability, tel: 0392 364253
- DPL, tel: 0785 5705075
- Formac, tel: 0727 845546
- Frog Systems, tel: 0738 440218
- Frontline, tel: 0256 841841
- Iomega, tel: 0800 898563
- Key Exchange, tel: 081 7441551
- Mac & More, tel: 0442 970300
- Macwarehouse, tel: 0800 181332
- Mirror, tel: 021 2122779
- Mygate, tel: 081 3181424
- Principal, tel: 0706 832000
- Reflection Systems, tel: 0763 262963
- SyQuest, tel: 071 2228515
- Thame Systems, tel: 0844 261226
- Wave, tel: 0800 765432

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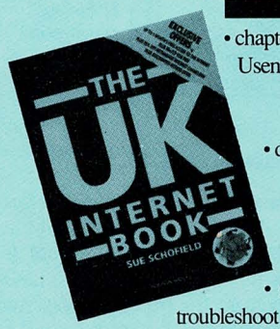

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- chapters cover TCP/IP software, electronic mail (email), Usenet, FTP, Telnet, Archie, Gopher, Veronica and the World Wide Web
- illustrated with screen shots throughout
- describes UK service providers, including Demon Internet Ltd.
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OPTICAL DRIVES

128MB Optical drive w/5 carts	£ 599
230MB Optical drive w/5 carts	£ 699
1.3GB Optical drive w/1 cart	£ 1399
1.3GB Optical drive w/4MB Cache, 1 cart	£ 1699

All Optical drives come a SCSI cable, power cable, terminator, formatting software and manufacturer warranty

run out of hard disk space ?

HARD DRIVES

	Internal	External
260MB drive	£ 125	£ 200
350MB drive	£ 140	£ 215
520MB drive	£ 185	£ 260
1GB drive	£ 395	£ 470
1.7GB AV drive	£ 649	£ 724
2GB drive	£ 749	£ 824
4GB drive	£ 1575	£ 1649
9GB drive	£ 2499	£ 2574
240MB Powerbook drive	£ 225	

All external hard drives come with a SCSI cable, power cable, terminator, formatting software and manufacturer warranty.
Internal drives are supplied with formatting software and manufacturer warranty.

looking for a cheap way to store large amounts of data ?

COMPACT DISC RECORDERS

Plasmon RF4100	£ 2245
Philips CDD522	£ 2299
Yamaha CDE100	£ 3360

All CD Recorders come with Astarte Toast 2.5 software, 74 minute (650MB) CD,cables and 1 year on-site warranty.

need to transport data files ?

SYQUEST DRIVES

44MB Syquest drive	£ 189
88MB Syquest drive	£ 259
200MB Syquest drive	£ 399
105MB Syquest drive	£ 259
270MB Syquest drive	£ 389

All Syquest drives come with 1 cartridge, a SCSI cable, power cable, terminator, formatting software and 1 year warranty

looking for a back-up system ?

DAT DRIVES

2-4GB DAT drive	£ 649
4-16GB DAT DDS-2 drive	£ 849

All DAT drives come with Retrospect v2.1, 1 tape, cables and manufacturer warranty.

TEL: 0800 132591 **FAX: 0181 318 1802**

FOR TECHNICAL SUPPORT OR OTHER ENQUIRIES PLEASE CALL 0181 318 1424

Units 9 & 11, Southbrook Industrial Estate, Southbrook Road, Lee, London. SE12 8LG.

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Dramatica

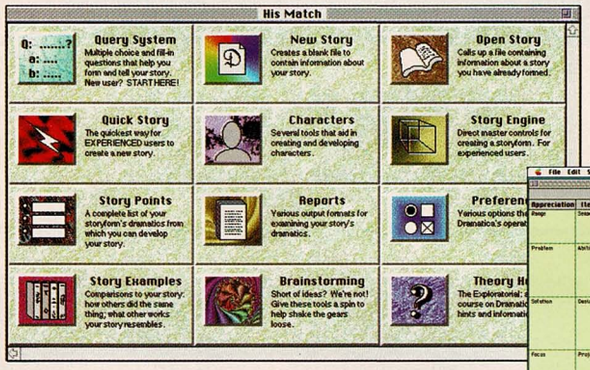
You've got the gear for making that Mac movie, but you still don't have a story? Then *Dramatica* could be right up your *Coronation Street*...

Whoever said that we all have a great novel inside us waiting to get out is behind the times. In fact, we all have a blockbuster film in us – every line of dialogue, every camera zoom, it's all there in our heads... and your Mac can help you get it out.

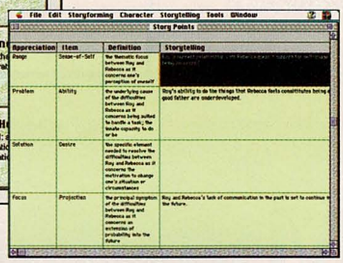
The writers of film scripts – or screenplays – often follow a set of guidelines to help them draw the best story possible from their ideas. Since the days when tragedies were played out in Greek amphitheatres, rules have been devised that set out how you can tell your story – how to get the audience on the edge of their seats waiting to find out what happens next. Telling a story is an art, yes, but it's also part science. There are courses you can go on to learn how to use these rules – the Oscar-winning screenwriter Robert McKee, for example, runs intensive seminars for other professionals.

And then there's *Dramatica*, which is a program intended both to help you go through the process of deciding what you want to write about, and to help make your story a compelling one.

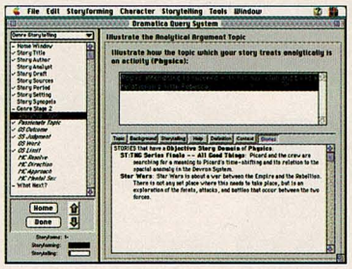
What the program authors do not promise is that *Dramatica* will write your script for you. Indeed, it doesn't actually produce a script in a finished form. The process here is analytical – you build up the structure and themes of your story, and the program presents alternative ways of looking at the results.


His Match
Query System
Multiple choice and fill-in questions that help you form and tell your story. New user? START HERE!
New Story
Creates a blank file to contain information about a story you have already formed.
Open Story
Calls up a file containing information about a story you have already formed.
Quick Story
The quickest way for EXPERIENCED users to create a new story.
Characters
Several tools that aid in creating and developing characters.
Story Engine
Direct master controls for creating a storyform. For experienced users.
Story Points
A complete list of your storyform's dramatics from which you can develop your story.
Reports
Various output formats for examining your story's dramatics.
Story Examples
Comparisons to your story: how others did the same thing; what others' works your story resembles.
Brainstorming
Short of ideas? We're not! Give these tools a spin to help shake the gears loose.

This is your starting point – a colourful menu that shows you clearly and unambiguously what your options are.



This window approaches your story from several angles, asking you to decide exactly how you will portray the scenes.


Dramatica Query System
Illustrate the Analytical Argument Topic
Illustrate how the topic which your story treats analytically is an activity (Physics):
Home
Done

Use the Query System to build up your story. Notes on famous scripts help you cope with any unfamiliar terms that you're likely to come across.

With several manuals explaining the program and the principles behind it, *Dramatica* is not for anyone who's only casually interested in writing a yarn. You'll have to invest time in learning the concepts and developing your ideas with them. Even if you're already familiar with the basic principles of screenplay writing, *Dramatica* will take some getting used to. Its use of complex and sophisticated concepts and love of jargon don't help you get to grips with it, although the on-line tutorials at least indicate a willingness to help.

You tell *Dramatica* about your story by answering a procession of questions. Your choice of answers is limited to multiple choice, and as you fill in some details, fleshing out your story, other sections are completed automatically as your options are narrowed. The questions deal with the ideas behind your story – how your characters are changed by events rather than what the events are.

A lot of jargon is used – some of it familiar to screenwriters, some devised by *Dramatica's* authors. It can overwhelm you at times, but in

Final Draft

Itching to get writing? There's a demo of *Final Draft* on this month's CD-ROM

Now you're ready to type out five drafts of the script – hundreds of pages in all. No-one said it'd be easy – except the makers of *Final Draft*...

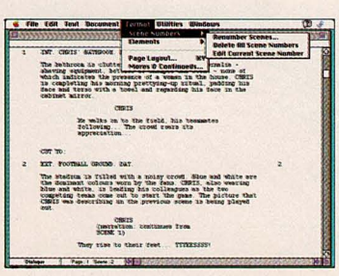
Once you know what your story will be about (see *Dramatica*, above), you still have to write it down so that your actors have a script. *Final Draft* is a word processor with a difference. It's designed specifically for writing things like screenplays, theatrical plays and TV scripts.

The main difference between these scripts and normal documents is the layout. If you're submitting a script to a company in the hope of selling it, you need to follow the rules – if you can't show you understand the basics, the company won't think you're professional enough.

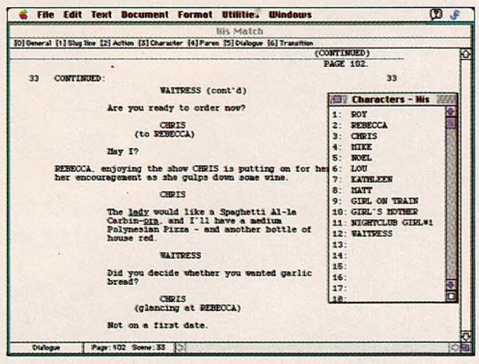
Final Draft can take care of the basics, leaving you to get on with being creative. It uses the principle of style sheets – the preset combinations of aspects like font and type size typical of DTP programs. The style sheets here change the margins and type according to whether you're writing dialogue or description. There are six standard styles used in scripts, but you can create your own if need be.

In any well-ordered script, you would normally change styles between the character's name and his or her dialogue. Here, you don't have to waste your time changing the style – *Final Draft* changes it automatically. The **[Return]** key acts as a trigger to change styles, shifting from character name to dialogue for you. But again, you can add to or delete any of the preset combinations.

A further time-saving device is the character list, which acts as a macro (with a certain combination of keys triggering a longer action). What happens here is as you begin to type a



With *Final Draft*, you can concentrate on drinking coffee and hammering out the story while the program creates a professional-looking script for you.



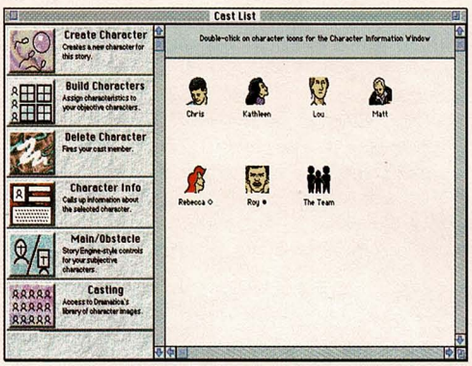
The character list helps keep tabs on your cast and is one of the many speed-saving devices used by this word processor.

addition to a detailed tutorial, there's help in the form of analysis of several films and plays, including *Star Wars*, *The Verdict* and *Hamlet*. Examples of how the writers tackled problems will help you understand your own dilemmas.

When the process is complete, you have the emotional skeleton for your story – what's left is to add the flesh of physical events by reviewing your multiple choice entries. There are several ways of doing this. You can view the Story Points list, which approaches your story from various different angles and asks you for specific illustrations of events. For example, you'll be asked not only for the scene that shows how the protagonist's goal is achieved, but also for a scene showing how the protagonist imagines it will be achieved – or what the worst thing that could happen would be.

Reports lay out your decisions in various ways, which are intended to suit different people's methods of writing. You might feel more comfortable delving deep into your characters as people rather than developing your themes, for example. The reports set out your story in their own abstract terms, then show the scenes you've chosen to illustrate those. Even more sophisticated are the areas that enable you to show how members of your cast relate to each other.

When you are satisfied with the shape of your story and the way its ideas are expressed, you're ready to move on to the scripting stage (see *Final Draft* review, below). *Dramatica* offers a comprehensive set of tools for forming your story, but unless you're already an *expert* writer, you'll get little out of the program for some time. But when you have some command of the concepts, you should find that *Dramatica* is an intelligent collaborator, offering genuine insights into completing what is a painstaking and personal process. *Richard Hill*



You can view your cast list in this window. Other parts enable you to define the relationships between them.

DRAMATICA 1.0

Price: £217.37. Out: now.
Requires: any Mac (SE/30 or better recommended) with System 7.1 or later, and at least 4Mb of RAM.
For more details contact Sargent Disk on 0753 656631.

Features 85%
A comprehensive range of tools for aspiring or professional writers.

Ease of use 74%
Simple to move around, but the jargon is an obstacle.

Documentation 78%
Printed and on-line guides help, but could be more clearly written.

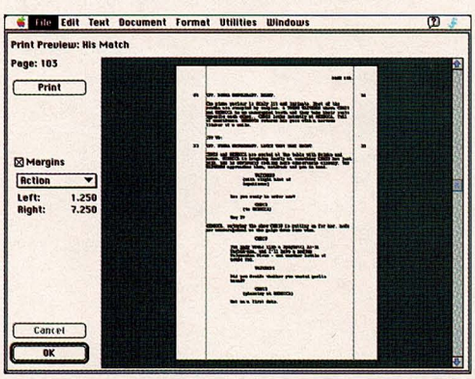
Value for money 88%
If you're serious about writing, you'll get a lot of use out of this.

MACFORMAT RATING 83%

character's name, *Final Draft* searches through the character list until it has enough letters to work out which character you want – it then finishes the word for you. If you're typing hundreds of pages, this can save no end of time.

No modern word processor would be complete without a spell checker, and this one has the usual array of features – suggestions for what you meant to type, adding to the dictionary. There's also a huge thesaurus that offers both synonyms and antonyms.

With helpful functions like periodic automatic file saving, *Final Draft* is a great text cruncher, ideal for midnight sessions when all that matters is putting your thoughts safely away on that hard disk. It doesn't offer the graphical flair of monster programs like *Word*, but if your needs are this specific, it fulfils them admirably – end of story. *Richard Hill*



You can see how the final document looks before you print it, and change any of the margins if necessary.

FINAL DRAFT 3.0

Price: £210.32. Out: now.
Requires: Mac Plus or better, System 6.0.2 or later and 2Mb of RAM.
For more details contact MacLine on 081 401 1111.

Features 75%
A no-fuss word processor with some imaginative extras for dedicated writers.

Ease of use 82%
If you're scripting, you'll speed your way through the pages effortlessly.

Documentation 73%
The manual's clear and well laid-out, and avoids going over-the-top.

Value for money 77%
It doesn't offer enough to make a all-round word processor, but it's ideal for pros.

MACFORMAT RATING 78%

BUILDING BLOCKS

There are common threads that run through many stories. Anyone who wants to write a compelling script can make use of these concepts to improve their plots. MACFORMAT takes you through a few of the most common ones...

Your leading character is known as the **protagonist**. He, she or it typically has a want or need – love, treasure, a really tasty hot dog – and it's this desire that drives the story forward.

The **premise** (rather confusingly referred to as the 'Story Mind' in *Dramatica*) describes the situation in which your protagonist finds himself or herself. What does the protagonist want, and what are the factors that are preventing him or her from getting it? Typically the story ends when the protagonist's need is either fulfilled or finally thwarted.

The **plot** builds on your premise to set out a sequence of events – what happens to your protagonist over the course of the story. The **theme**, on the other hand, describes what your story is about – not what happens. Why are you telling this story? What are your audience going to be arguing the rights and wrongs of as they leave the performance?

An element that every good story needs is **conflict**. There's nothing like a good argument to bring out both sides of the issues you're dealing with.

Often in a story, there is somebody or something that represents the opposite view to your protagonist – the bad guy to your good guy. This is the **antagonist**. A good antagonist guarantees conflict.

When a type of story – its characters, themes and settings – is repeated often enough, it can be said to have become a **genre**. Take the Western as an example. The audience is likely to be so familiar with other stories set in this time and place that it already has expectations of what may happen before your story begins. It's up to you to satisfy or ignore all or some of these expectations to the best overall effect.

Symbolism is common in stories, and characters can themselves embody a larger ideal, such as Good or Evil. This symbolic character is known as an **archetype**. The Hero is perhaps the most common archetype. The use of archetypes can add resonance to your story by tapping into the common well of traditional myths and folk tales familiar to all of us.

A subtle art of scripting is **exposition**. This means you're filling in the audience on something they need to know to understand what's happening. An easy and much-used way of doing this is to bring a newcomer into the situation. Maybe a secretary is starting work at an office – she'll be taken round to meet all the members of staff, and the audience will meet everyone along with her.

Letter perfect

If you're just typing business letters, the basic alphabet is probably enough for you. But for DTP, you'll want to use everything your Mac can offer. Alex Summersby seeks out more characters...

Here's a little Mac quiz question for you: how many characters in a font? Trick question, you say: the word 'font' should strictly refer to the character set in a particular typeface in a single type style at a single size (such as Times Bold Italic 12 point), but 'font' is often used to refer to the whole type family (Times, say) – and that could include thousands of characters. That's a bit of a red herring, really, because with scalable fonts (old news these days) and now Adobe's Multiple Master system (still not widely used), you only need one set of characters, which can be scaled or metamorphosed as required. So let's be totally precise: how many characters in a font, strictly defined?

Let's see. There's the basic 26 letters of the English alphabet, plus ten numerals from 1 to 0, plus miscellaneous symbols, brackets, braces and assorted punctuation marks. Let's say that comes to... what, 50? Then there are the upper case versions of most of these, plus letters that aren't in the English alphabet but presumably are built into at least some fonts, so let's say double that number and add a few more for good measure... 150?

In fact – as you suspected all along – it's a trick question. The number of characters in a font depends on which font you're talking about. Some don't offer a full set – especially bitmapped screen fonts (where each extra character has to be drawn separately and takes up that little bit more memory) and 'home-made' shareware fonts (where some poor shareware author has to do a whole lot more design work to earn his tenner shareware fee). In these cases, when you type some less-common characters all you get is the 'missing character box' □ (or something like that). Some fonts, on the other hand, offer heaps more.

But that begs the question. How many is 'a full set'? Well, there's no universally agreed standard, but the closest thing is probably ASCII – the American Standard Code for Information Interchange. It was designed to create a common ground to enable different kinds of computer system to talk to each other, and it does so by assigning unique code numbers to the letters of the alphabet, numerals and various symbols. So how many is that?

Are you ready for this? The standard Macintosh ASCII set is no fewer than 234 characters.

Wait a minute, you say. That raises another problem. You've got a font with a full complement of 234 characters in it, fine. Superb resource. Great value for money, no doubt. So how do you actually type all those characters? The standard Mac keyboard only has (does a quick count; subtracts all the control keys, arrow keys and the numeric keypad) 47 character keys on it.

Simple. Basic lower case set: 47 characters. Upper case set (using the **[shift]** key): another 47, making 94. Use the **[option]** key instead of **[shift]:** another 47, making 141. Hold down both **[option]** and [**shift**]: another 47; total, 188. One more lot of 47 makes 235 (they must have lost one somewhere), so it must be just a matter of holding down another control key – how about **[control]**?

Want to find all those extra characters? *PopChar* is on the cover disk!

That's where it starts to get really interesting. There are various utilities available that display the characters in a font, including *Key Caps*, which comes with your Macintosh System disks, and the slightly more sophisticated *PopChar*, which is yours free on this issue's MACFORMAT cover disk (see page 7). Try holding down the **[control]** key, and both of these utilities will show you a screen full of 'missing character boxes'. So it ain't **[control]**.

Well, there is an answer, but you're not going to like it. The 'missing' characters are actually all accent characters such as é, ä and ñ, and you can't get them by hitting any single key combination. True, they are all assigned an ASCII number (see the 'Number please' box), but normally on the Mac keyboard you have to perform a manoeuvre that can only be compared to a feint in boxing: you first press the key combination for the accent alone, and nothing appears on-screen; then you press the key for the letter you want the accent over, and bam! It appears, complete with accent.

If you load *Key Caps* and hold down the [**option**] key, the keys that produce the accents (or

Load up *Key Caps*, hold down the [**option**] key, and you not only get a display of the characters you can type: the keys with grey borders give you accent marks – see the box below.

Holding down [**option**] and [**shift**] together enables you to type a new range of characters. It also forces our grabbing software to default to black and white. Isn't that fascinating?

Holding down the [**control**] key, you'll find, you don't get many characters at all, just a screen full of those 'undefined character' boxes. So where are they all hiding then?

THE ACCENT IS FAMILIAR

You can produce some 'foreign' and accented characters in most fonts using simple key combinations, such as **[option]** A for å or **[option]** **[shift]** ? for ¿. However, the standard way of creating most letters with accent marks is to type first the key combination for the accent and then the key for the letter you want the accent to appear over. Here are the accents and the letters over which you can legitimately place each accent:

To create this accent:	First press:	Then you can get these letters:
´ acute accent	**[option]** E	á é í ó ú Á É Í Ó Ú
` grave accent	**[option]** `	à è ì ò ù À È Ì Ò Ù
^ circumflex	**[option]** I	â ê î ô û Â È Î Ô Û
¨ dieresis or umlaut	**[option]** U	ä ë ï ö ü ÿ Ä Ë Ï Ö Ü Ÿ
~ tilde	**[option]** N	ã ñ õ Ã Ñ Õ

If you type one of these accents followed by a character that can't legitimately have that accent over it, you get just what you typed: the accent followed by the character. Eñd ôf stòrÿ.

don't produce them, if you prefer) are outlined with a grey border to remind you that you then need to press another key to actually get a character. The sting in the tail is that the accent won't appear over just any other character – it has to be one of the legitimate, ASCII defined characters. So if you type **[option]** E followed by E, you get é, but if you type **[option]** E followed by P, you get ´p – the accent followed by the illegitimate, unaccented letter. (See the 'Accent is Familiar' box for more details.)

It's easy to get other useful characters – *Key Caps* and *PopChar* will help you find the right key combinations for all of them, but here are some handy ones:

'Foreign' letters

å **[option]** A
Å **[option]** **[shift]** A
æ **[option]** ' (the apostrophe key)
Æ **[option]** **[shift]** '
œ **[option]** Q
ç **[option]** C
ø **[option]** O
Ø **[option]** **[shift]** O (often used to represent 'zero', as distinct from the letter O)
ß **[option]** S

Maths/spreadsheet symbols

√	**[option]** V	square root
≠	**[option]** =	not equal to
≈	**[option]** X	approximately equal to
≤	**[option]** <	less than or equal to
≥	**[option]** >	greater than or equal to
±	**[option]** **[shift]** =	plus or minus
∂	**[option]** D	delta, differential
Δ	**[option]** J	capital delta, increment
µ	**[option]** M	mu, micro-
f	**[option]** F	function
∫	**[option]** B	integral
Σ	**[option]** W	sigma, sum
∏	**[option]** **[shift]** P	capital pi, product
¬	**[option]** L	logical 'not'

(The exact use of these varies, of course, from program to program.)

Typographic symbols

"	**[option]** [	double open quotes
"	**[option]** **[shift]** [	double close quotes
'	**[option]**]	single open quotes
'	**[option]** **[shift]**]	single close quotes (or apostrophe)
–	**[option]** -	en dash
—	**[option]** **[shift]** -	em dash
√	**[option]** V	tick or 'check mark'
◊	**[option]** **[shift]** V	diamond
†	**[option]** T	dagger
•	**[option]** 8	bullet
…	**[option]** ;	ellipsis points
⌘	**[option]** **[shift]** K	looks familiar...

... but the ⌘ symbol doesn't exist in most fonts – and it's one of the rare examples of a **[control]** key combination: **[control]** Q in Chicago.

Bear in mind that some of these may not be available in all fonts, especially shareware fonts which lack the complete character set. On the other hand, if you fancy yourself as a 'power user', you might find a use for a 'non-breaking space' – if you want 'New York', for instance, always to print on the same line and never to be split at the end of a line (as in the line 'New York'), you can type **[option]** **[space]** instead of just a normal **[space]** between the 'New' and the 'York'. This works in just about every text-handling program from *TeachText* upwards, though the size of the space may vary from the standard in some programs.

Any program capable of automatic hyphenation should be able to recognise the 'discretionary hyphen' character, **[command]** – (that is, **[command]** **[hyphen]**). Just type this within a word at the point where you want it to hyphenate if it falls at the end of a line. If the word doesn't fall at the end of a line, the character should be completely invisible.

Finally, if all this sounds like it's just what you want but you're still using System 6, one word of warning. When it introduced System 7, Apple shifted the goalposts, just to keep us all on our toes, as it likes to do every now and then for no apparent reason. It re-mapped the keyboard, changing the key combinations for several of the **[option]**-key characters. For the Â character, you used to press **[option]** **[shift]** M, but under System 7 it's **[option]** **[shift]** R. Type **[option]** **[shift]** M and you get a cute little ˜ thing in the air. This makes no difference once you've got the characters – import a document from a System 6 Mac to System 7 and they'll still be there; it's just changed the keys you use to type them in the first place. Best trust *Key Caps*.

Alex Summersby

NUMBER PLEASE?

ASCII – American Standard Code for Information Interchange – is the closest thing there is in the computer world to a universal standard. Every character is assigned a unique ASCII number, and this means that different computer systems can all share information – ASCII code 065, for example, always means a capital A.

You might think this is pretty useless. Some programs, such as Microsoft *Word*, enable you to enter characters by ASCII code, but if a character is included in a font (and remember, some aren't), you can view it on your Mac screen using either *Key Caps* or *PopChar* and cut-and-paste it into your document. However, ASCII codes are handy if you need them for exactly what they were designed for – transferring data between different computers.

Any DTP package worth its salt can import ASCII text, even if it was generated on some other computer. (You just need to save the text from your word processor as ASCII on a PC-format disk, which your Mac can read using *Apple File Exchange* or commercial programs such as *PC Exchange*.) But *QuarkXPress* can also cope with ASCII characters that you can't even type on other computers: the program will convert the ASCII code numbers directly into the corresponding characters when you import the text. All you need to do is remember two things. First, make sure you have the 'XPress Tags Filter' in the appropriate place (which depends on the version of *XPress* you're using – in v3.3 and 3.31, it should be in the 'XTension' folder within your XPress folder; in earlier versions the Filter needs to be loose in the XPress folder). Second, make sure you type the codes in this form:

<\#*nnn*>

– where *nnn* is the ASCII code number for the character you want.

So for example if you want this typical mathematical formula:

∑(déjà vu) ≠ √(ménage à trois)

you can simply type this:

<\#183>(d<\#142>j<\#136> vu) <\#173>
<\#195>(m<\#142>nage <\#136> trois).

Yes, it does gain a little something in the translation, doesn't it?

This is useful because ASCII codes are not quite as universal as they were supposed to be. Both the Mac operating system and *Windows* use the same codes for the most common characters (ASCII codes up to 128), but other characters, including those with accents (which have codes above 128), are encoded differently. If you use translation software as you transfer your text, it should automatically translate the codes. Without translation software, you're likely to end up with all your foreign characters and mathematical symbols garbled. Unless, of course, you use the ASCII codes directly instead of typing the characters in *Windows*.

What's more, there are some very useful

PopChar not only displays a full character set, it even tells you the ASCII number for a selected character (⌘ = 240).

characters that just don't exist in *Windows*:

≠, ∞, ≤, ≥, ∑, ∏, π, Ω, √, ∫, ≈, Δ, ◊, fi, fl

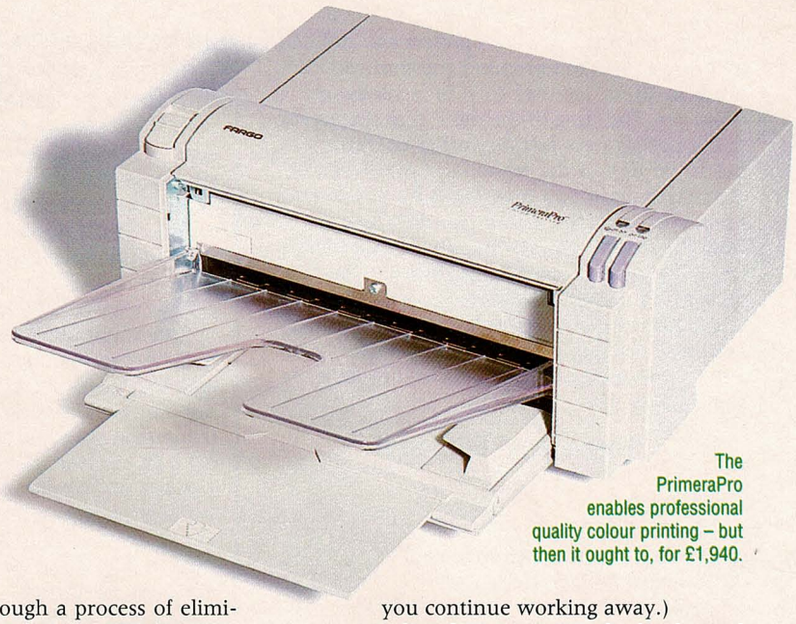
All these are defined in PostScript and have ASCII numbers, but Microsoft in its wisdom chose not to incorporate them into the standard *Windows* character set. A translation program won't help here because you just can't produce these characters on a PC – but you can type in the ASCII codes as above, and when you import the text into *QuarkXPress* they'll appear as if by magic!

The situation is even worse with PC programs that run under MS-DOS rather than *Windows*: the standard DOS character set is even more limited. DOS is text-based, you see, so it uses some ASCII characters as 'graphic' characters for drawing lines and boxes, while something like ¶ or ⌘ will be simply too much for it to cope with. Again, if you're forced to import text generated on a PC, you can just use the ASCII codes!

How do you find the right code? *PopChar*, included on this issue's MACFORMAT cover disk, makes it easy: experiment with the [shift] and [option] keys until *PopChar* displays the right character on your Mac screen, then highlight it with the cursor. *PopChar* displays the character's ASCII code for you at the top of the window. Simple!

Colour by numbers

It's easy to set up and it prints in colour. What more could you ask for? Andy Storer puts the PrimeraPro through its paces...



The PrimeraPro enables professional quality colour printing – but then it ought to, for £1,940.

With so many printers to choose from for the Mac, what makes the PrimeraPro special? Well, it not only prints in colour but it offers a choice of two colour printing technologies: thermal wax transfer and dye sublimation.

In thermal wax transfer, thousands of little heated pins in the print-head melt wax-based ink on to special paper, producing thousands of tiny coloured dots in the four primary colours cyan, magenta, yellow and black. Different patterns of dots create the illusion of an almost infinite number of colours on the paper.

Dye sublimation uses the same thermal print head, but only three colours. The coloured dye vaporises when heated and diffuses on to the surface of special dye-receptive paper. By varying the heat intensity of each thermal element within the print-head it's possible for each transferred dot of colour to vary in hue and thus blend into the next, resulting in a continuous tone or almost photo-realistic reproduction.

That's the theory at any rate, so how does the PrimeraPro perform? Well, first, setting it up is straightforward enough. All you need is an AppleTalk lead that runs from your printer port to the printer. You install the supplied driver software in your Extensions folder, select the printer from the Chooser, choose a file to print, and hey presto! – your Mac crashes. Again and again. It took me the best part of a day until I realised, through a process of elimination, that the problem lay with *RAMDoubler*: it was incompatible with the driver software. Remove that and you're up and running.

Unfortunately you can't just switch between thermal wax and dye sub technology using a dialogue box. You have to slot in the correct ribbon for whichever technology you have chosen to use – though that only takes ten seconds at most – and then make sure you choose the appropriate level of output in the software: with the thermal wax ribbon installed, either draft, three-colour or four colour mode; if you choose dye sub you have to select the photo-realistic option to get the printer to work. You also have to ensure you have fed the correct paper into the PrimeraPro's sheet feeder, otherwise the results are awful.

Whichever method you choose, you have the option to print out in draft, 300x300 dpi or 600x300 dpi. The colour photo used for our tests was scanned in at 300 dpi and imported into *QuarkXPress* running on an LC475. With thermal wax, I had a two and a half minute wait in draft mode and six minutes for both the higher resolutions. In dye sub mode, the wait was ten minutes, irrespective of the resolution selected. (Luckily, there is a background printer spooler utility, which you can install as a Start-up item, that takes care of the long wait. It prints your documents in the background while you continue working away.)

Surprisingly, the printouts (both thermal wax and dye sub) were infinitely better in draft mode than in the higher resolutions, though the reverse was true for output that included text and curved line illustrations. I finally realised why: *QuarkXPress* is designed for PostScript output but I was not using the optional PostScript driver. Without it, images are interpreted by the Mac's built-in QuickDraw display system, with the aid of the PrimeraPro's built-in anti-aliased text handling (hence the better results with text). If you have 8Mb of RAM and at least 20Mb of free hard disk space, not to mention a spare £350, the PostScript option does give you professional-quality output and full conformity to the industry standard. You also get software to enable the Primera to function as a networked printer server, able to receive batch jobs from any connected computer.

So which technology should you choose? Well, I'd go for dye sub every time for good quality output, but thermal wax is much faster – and the paper and ribbons cost less. But both technologies are cheaper than colour ink-jets and produce far better results. *Andy Storer*

As you can see, using the dye sublimation process produces the best results from the original photo scanned in at 300 dpi. The output would be even better if we'd chosen to produce a lighter print out from the Page Setup dialogue.

The Expert Options dialogue box enables you to modify the contrast of the print-out and implement colour matching, using Apple's Colour Sync technology. You can also smooth out text and colour gradients.

PRIMERAPRO

Price: £1,937.58. (PostScript driver £351.33 extra.)
Requires: any Mac.
For more details contact Bannerbridge Plc on 0268 419101.

Features 88%
Great to see a colour printer offering both thermal wax transfer and dye sublimation.

Ease of use 77%
Once you've sussed the dialogue boxes, easy enough, but not foolproof: you can select the wrong settings for the ribbon fitted.

Documentation 81%
Straightforward enough, but no examples showing you how to get the best results.

Value for money 78%
Better results than colour ink-jets, but still a hefty outlay – and PostScript is extra.

MACFORMAT RATING 81%

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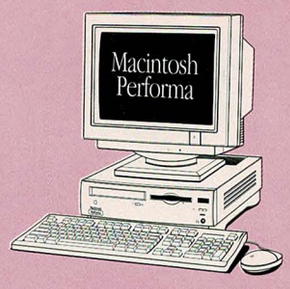

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Postcode Tel:

How much does it cost?

FutureConnect costs **£17.63** (£15 plus VAT) a month. There are no usage charges, so you can stay connected all day for the same amount (except for BT's contribution, of course). There is also a one-off connection fee of **£58.75** (£50 plus VAT). The first year's fee is payable in advance, so you can get 12 months of Internet connection for **£270.25**, including VAT – about a fiver a week. In subsequent years, the price falls to **£211.50**, which is about £4 a week.

'Net profit

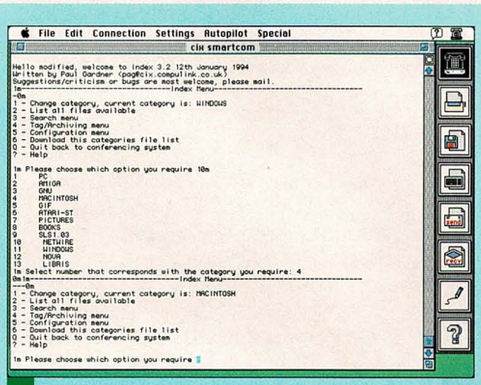
Finding the hottest shareware files can be cheaper and quicker with CIX. Andy Storer shows you how to get the most from your on-line time.

If you want to go window-shopping for freeware or shareware on the Internet, CIX is an excellent place to start. It's basically a one-stop shop. Every week, CIX scans the prime FTP sites around the world and downloads new files to store in its Index system. So you don't have to spend time – and money – trawling the 'Net yourself. CIX has done it for you. All you need to do is be registered with CIX (see MACFORMAT 20 for details on how to do it for free).

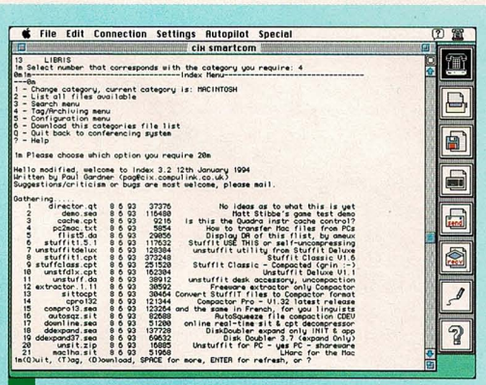
So what exactly is CIX's indexing system? It's a network of optical disks, totalling 56 gigabytes of storage space. These hold all of CIX's

SEARCH AND DOWNLOAD

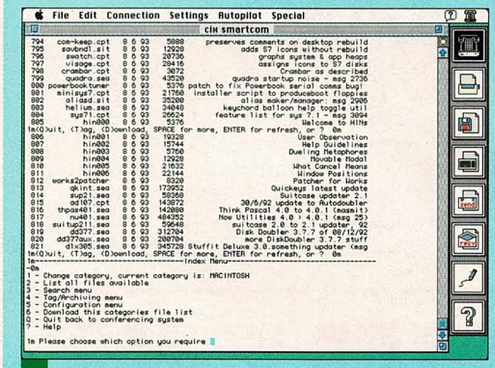
Sifting through CIX's indexing system for files is a simpler process than navigating the supermaze of the information superhighway. There's still a huge amount of information – around 56 gigabytes – but you can get at it without recourse to 'gophers' or strange cyber entities like Archie and Veronica. Just follow eight simple steps...



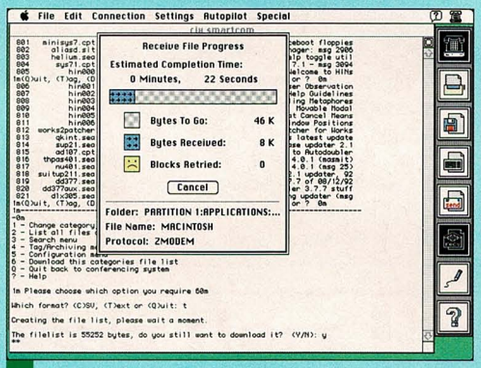
1 By typing **Go Index** at the **Main:** prompt you gain access to the indexing sub-system that holds all the files on CIX. The first thing to do is get out of that *Windows* category area by selecting **1** and **4** to enter the Mac area.



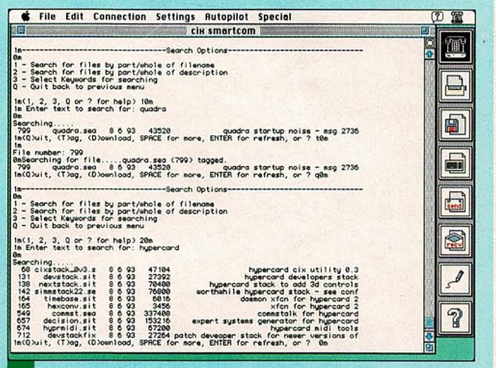
2 Once in the Mac area you can obtain a listing of all the files it contains. On the way you could tag any interesting files for later download, but for the moment let's just quickly scan through the files...



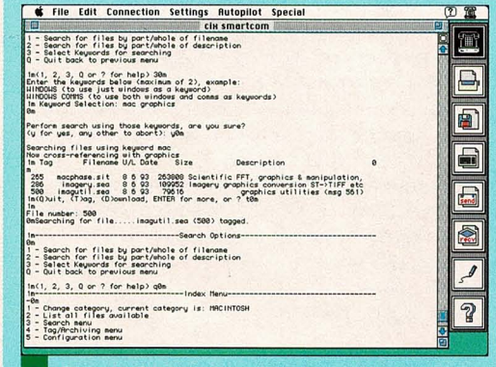
3 ...and there's 821 Mac files to choose from! The best thing to do at this point is find a way of downloading the list so you can read it off-line without having to help underwrite BT's expansion plans for the 21st century.



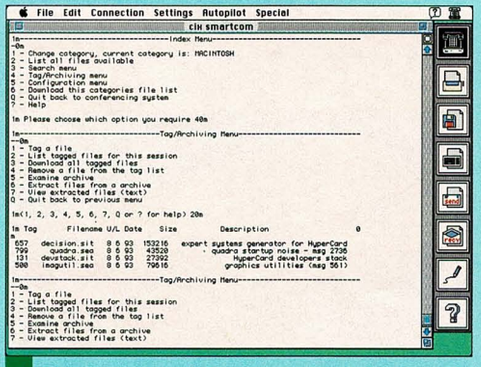
4 So it's just a question of choosing option **6** and selecting either straight text format or text that's comma-delimited or CSV. The latter is handy if you want to import the file into a database or spreadsheet. As long as you have Zmodem (see MACFORMAT 20) set up as your preferred file transfer protocol, the download is automatic.



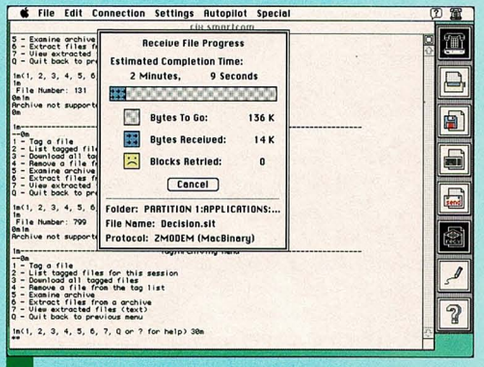
5 If you're after a particular file which may have been uploaded since your last call in, you can search on-line by entering its name, or a word from its description, and tag it for download once you've found it.



6 Since the CIX Index is organised around keyword categories you can also search selectively. Here we're asking the system to collate a list of all files listed under the keyword 'Graphics'.



7 Once you've tagged a few files for download it's easy to call up a list of these files. From the **Tag** menu it's also easy to untag files if you have second thoughts.



8 Choosing download from the list kicks Zmodem into gear and all your tagged files are downloaded in one batch. You can check that you're set up to use Zmodem by entering the **configuration** menu and choosing your preferred protocol for downloading; this overrides your usual profile.

available files for download, and there's a lot of them; not as many as on the Internet itself, but CIX offers other advantages. For starters, you can use search criteria to locate a file quickly using part or all of its filename or a keyword from its description. You can also look inside archived files to see what programs they contain and you can view the contents of any text files in the archive.

But the most useful aspect of Index is that you can tag multiple files for download in one session. The files in Index are grouped by area so that all the files from the Mac and other conferences are listed together. As the numbered file lists appear on screen, you can mark files you wish to add to your list for download. At any point you can then choose to download the whole lot in one go. *Andy Storer*

Top ten transfer tips

1. Connect to CIX at the highest possible rate your modem will support. (This is measured by baud rate. A 9,600 baud modem can send 9,600 bursts of information per second down a telephone line. Obviously, the higher the baud rate the better – see below for a reader's opinion on just how important this is.)
2. If your modem doesn't support a built-in data compression system such as v42, v42bis or MNP5, set your comms package to talk to it at about twice the rate at which it makes a connection.
3. Enable hardware handshaking during connections. This is set from within your comms package and ensures there are no overflows as the modems exchange date.
4. Set your comms package to use the Zmodem file transfer protocol to upload and download data. It's more efficient, faster and smarter.
5. Make sure CIX knows you're using Zmodem by editing your user profile accordingly. You do this by entering **edit profile** at CIX's **Main:** prompt, and using the built-in editor to change **option down x q** to **option down z q;** and **option up x q** to **option up z q.**
6. Ensure you have the latest versions of *StuffIt* and *Compact Pro* because Mac files are mostly compressed using one of these utilities. Self-extracting versions are available in the **94.files** topic in the Mac conference.
7. Use an off-line reader to browse conferences for topics that contain files or **Save** your connection file to disk and read the lists of available files off-line.
8. Mark the files you wish to download and enter CIX's Index area to perform a batch download of the selected files.
9. Before uploading any files compress them with either *StuffIt* or *Compact Pro* and **Save** them with a SIT, SEA or CPT extension. This will cut down on on-line time and also let others know what format they're in.
10. Don't switch to another application and start using it while you're transferring files. The additional demands on your Mac System could lead to errors in transmission, reduced throughput rates and mysterious 'hangs'. If any of these happen and you're using Zmodem you can easily resume file transfer from the point at which it was lost.

Using CIX to visit FTP sites

If you're a hardcore file freak your best bet is to track down the Internet sites that hold the biggest collections of Mac files, like the Imperial College Mac archives, which are at **ftp://src.doc.ic.ac.uk**

By typing **Go Internet** at the **Main:** prompt you can gain access to File Transfer Protocol (FTP) sites around the world that hold files. Even if you don't have permission to gain access to some of these sites, they usually have public directories with files available for download. All you need to do is enter **ftp <name of site>** and once connected use **ftp** as a username. When you're asked for a password, give your CIX nickname and e-Mail address – for example, **andy@cix.compulink.co.uk.** Once you've done that, you're in.

Typing **ls** at the **ftp** prompt will call up a list of files in the current directory and then by typing either **get** or **mget** you can copy individual or multiple files to your IP directory. As you add files in this way you can get a listing of all selected files and type **send <filename>** to copy files from your CIX IP directory to your Mac.

However, browsing through lists of files and transferring them while on-line should be minimised as much as is practical. And for this reason it's best to use CIX's **batchftp** command to carry out file transfers either in the background or while you're logged off. As **batchftp** transfers take place every 20 minutes, it's just a question of entering your desired file names and the sites that hold them. Then when you've entered **batchftp get,** each of the selected files is copied from the remote FTP site to your IP directory on CIX. You can then download them from CIX at a later date. A status report is included as a file in this directory showing the progress of the batch transfer and any problems that may have been encountered on the way.

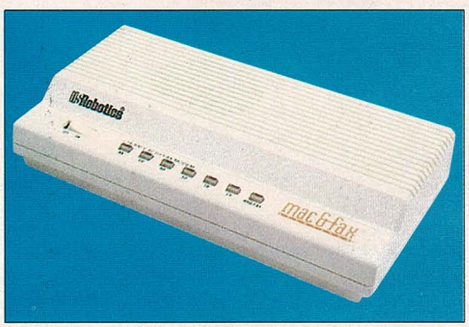
Electronic snail mail makes no sense

Slow modems mean big phone bills, says MACFORMAT reader Paul Foster.

I'd like to offer some advice to anyone who, after reading about the benefits of being connected, is about to take the plunge and buy a modem. Buy the fastest you can afford. Yes, I know this sounds obvious. The expression involving an elderly relative and an egg springs immediately to mind. But when you consider that there is about £100 difference between a 2,400bps and a 14,400bps device it may be tempting to go for the cheaper option, just to see what it is like. I know. I did.

Downloading *The Dark Side of the Mac* screen-saver took approximately 40 minutes at 2,400bps. At 14,440bps it would have taken in the region of five minutes. Using Mercury that is a saving of approximately £1.40. I'd estimate that the extra speed would pay for itself within the year with any moderate use. Well worth the extra initial outlay.

Mercury seems to be a better bet than BT, with regard to telephone services. It offers many more low cost connections than BT. London, for example, is a lower cost connection from anywhere in the UK via Mercury. It's only low-cost from selected areas via BT.



US Robotics Mac 'n' Fax (see offer on page109) can transfer data 20 times as fast as a cheaper 2,400 bps modem.

My main reason for buying a modem was to gain access to the Internet. The cost of using a service such as Demon is too high for me, particularly as I am not yet sure that the Internet will be everything it's made out to be. I am currently accessing it via indirect connection to a Bulletin Board System (Cosmos, though their gateway to the Internet is still under test as I write).

Incidentally, it's possible to send e-Mail to the US President (via **president@whitehouse.gov**). I doubt you could e-Mail John Major, though...

Paul Foster
Peterborough

PS. I would have faxed or e-Mailed this, but I am currently modemless. I have returned my slow 2,400 bps'er for a hot 14,400bps'er under a 30-day trial period. A useful point to look for when buying.

the internet magazine
.net
second great issue!
Even better than the first time!
Featuring
The Secret Life of E-Mail
Tricks and Tactics for the Postal Service of the 21st Century
And much, much more.
Critics rave about .net issue one!
"Bright, well-designed and certainly informative, the magazine oozed street credibility. By far the best Internet magazine to date."
Jon Ross, Publishing Director, VNU
(Note: Not someone from Future Publishing, but a direct rival!)
"Stylishly designed, .net offers a range of features explaining what the Internet is, and how to make the most of it. The approach is accessible and informative... and gives Future a good grounding for further growth."
The Magazine Business Weekly Report, 27 October 1994
"An immediate and striking editorial environment... [but] will the average would-be buyer of .net relate to a man with multi-coloured wires soldered to his head?"
Tony Westbrook, Editorial Director, Ziff Davis
Find out what they're all talking about! The new issue of .net is on sale on Thursday 1 December.
And this time there are no wires on the cover – guaranteed!*
*Well, there might be just one or two.
the internet magazine
.net
Essential reading for netsurfer and netpaddler alike
future PUBLISHING
Your guarantee of Internet without tears (or your money back)

3D Atlas

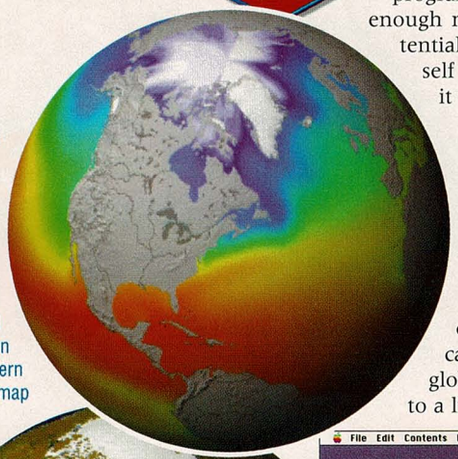
Explore the world and see how we're changing it with this CD-ROM. Geography has never been so interesting...

This program is one of a select number of titles that really take CD-ROM beyond the realm of the tarted-up video player. Too many CD-ROMs are bland guides filled with movie clips of whatever the publisher could buy the rights to. Not this.

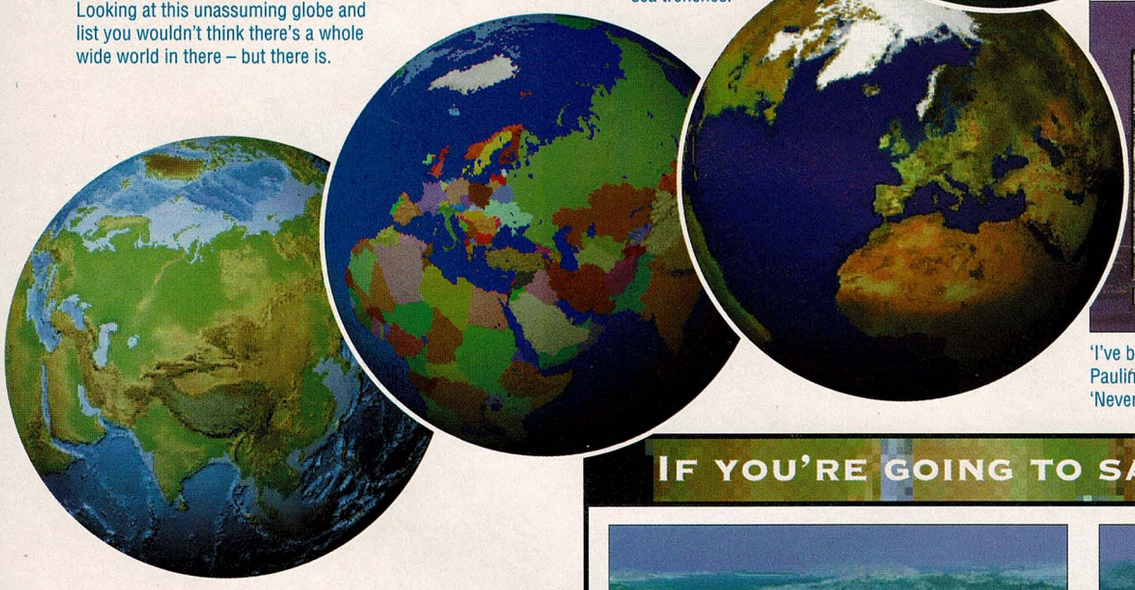
3D Atlas is packed with information and it's user-friendly – so much so you might never need to refer to the manual to find out what you should be doing. For instance, if you run the program straight from the CD-ROM, you're advised on screen to drag it over to your hard disk to speed it up. And the program will check to make sure it has enough memory to run at its highest potential on your Mac, and then adjust itself accordingly. About the one thing it won't do is make your coffee.

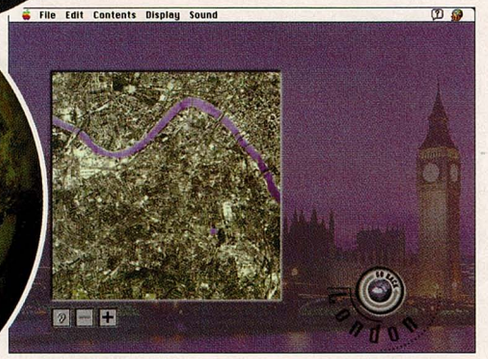
The main screen consists of a list window and a globe; a sparse interface that conceals a wealth of features. You can choose from several lists to browse through, including countries and cities. The globe is a control device in itself – the sort you can only have with CD-ROM. You can use the mouse to revolve the globe on its axis, and up and down to a limited degree. You can also zoom

Looking at this unassuming globe and list you wouldn't think there's a whole wide world in there – but there is.



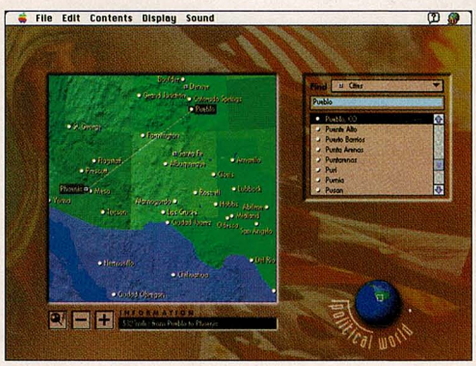
3D Atlas shows you the world in its many forms. Clockwise from right: global sea temperatures; the planet as it appears from space; the world divided into political regions, including an up-to-date Eastern Europe; and a relief map of mountains and sea trenches.



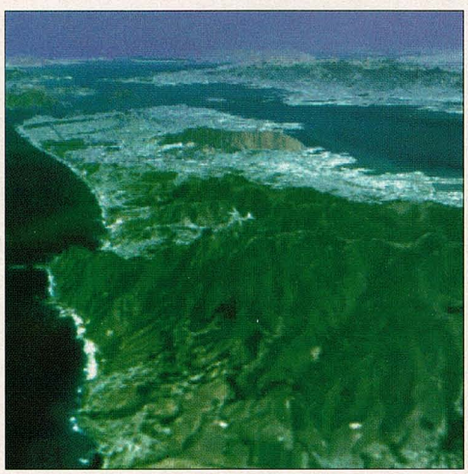


'I've been viewing this satellite map of London all day, Pauline, and I still can't find Walford Football Club.'
'Never mind, Arfur, have a nice cuppa tea.'

IF YOU'RE GOING TO SAN FRANCISCO...



You mean to tell me that you've dragged this line to find it's 532 miles from Pueblo to Phoenix? I knew I shoulda taken a left turn at Albuquerque...



As well as the satellite views of cities, there's a bonus in the form of a journey around San Francisco.

The trip uses similar ideas to *QuickTime VR* (see MACFORMAT 20), but on this evidence it's much quicker.

THE ERUPTION THAT SHOOK THE WORLD...

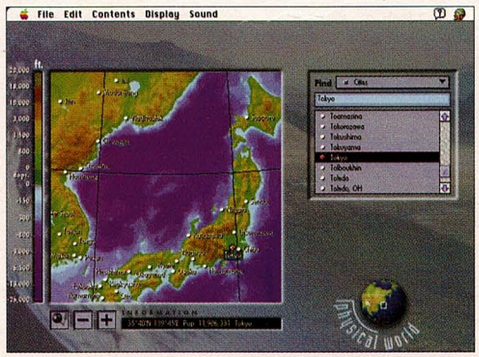
This is the spectacular eruption of the Mount Pinatubo volcano in 1991, as seen by a Japanese satellite.

It sent an estimated 20 million tonnes of sulphur into the air, which is thought to have slowed down global warming.

With *3D Atlas*, you can see the eruption as it took place. It wen on for many hours and covered hundreds of miles.

in on a certain point, giving you several levels of detail. The main control menu enables you to view the world in various ways, in terms of geography or political states, for example.

The list and the globe are linked – using each gives you a degree of control over the other. You can turn the globe to a region of the world and click on the place to find its name. The place appears on the globe while the list moves to that point as well. Or you can type in a name and the globe turns to reveal that place. As you zoom in on the globe, revealing city names that there wasn't room for before, the list also adjusts to include these extra names. It prevents clutter, but it also stops you searching for a city the size of Phoenix until you've zoomed in far enough, which weakens the search facility.



This is Japan as seen through *3D Atlas* – if you zoom further in, more towns and cities reveal themselves. This way the map remains uncluttered when the scale is large.

All this is a joy to use, but it's only the beginning. There are video clips that show you different climates around the world or speed you on tours through mountainous landscapes. You can watch these at quarter-screen size or bring them to full size with a single click. Video is also used to bring in a subjective viewpoint by raising contentious environmental issues like nuclear power and deforestation.

Time-lapse photography taken from satellites reveals the changes the earth is undergoing. You can watch the progression of photos or stop it at any point to control the pace yourself, while the narration explains clearly what you should be looking out for.

Satellite photographs are also used to provide maps of the major cities of the world. You can zoom in and glide above places like New York and Bombay, spotting landmarks referred to in the narration. It gives you an idea of how much detail these satellites can see in. And just think, they're watching you right now – not that I'm out to make you paranoid or anything.

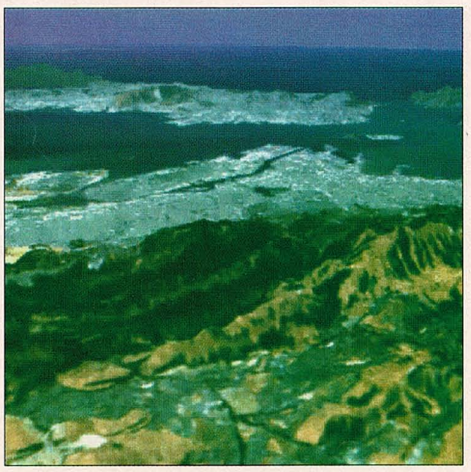
The unassuming menu option **Statistics** hides an overwhelming bank of facts and figures, giving you the low-down on everything from industrial output to worldwide use of contraception. You can call up charts and tables to see how Britain compares with its neighbours – some results are depressingly predictable, while others might surprise you. You have a great deal of control over the way you can view the data, so you can be as selective as you like.

When you have done all this, there's a multiple-choice quiz to test your knowledge. This is the weakest section – when I played it, the same question was repeated. The over-used clips of old movies don't endear themselves to you either. But the class of the other sections overwhelms the deficiencies of this one part.

3D Atlas is a thrilling production. It uses CD-ROM to give you the maximum control possible over what you want to find out and where you want to look, and it responds to your requests without fuss. The professionalism of this product puts plenty of CD-ROM cash-in merchants to shame.

Richard Hill

You can view it from straight overhead, just like the satellite maps – then zoom down to ground level.



There's also a tram simulator where Karl Malden jumps in and has a shootout with a bad guy. Honest.

3D ATLAS

Price: £54.99. Out: now
Requires: any colour Mac with System 7, 5Mb of RAM and a CD-ROM drive (double-speed recommended).
For more details contact Electronic Arts on 0753 549442.

Features 95%
An imaginative interface adds new dimensions to the traditional paper atlas.

Ease of use 91%
No problemo. Pas de probleme. Easy peasy.

Value for money 93%
A genuinely long-term purchase at a keen price.

MACFORMAT RATING 94%

Ghosts

Fact or fiction? Tour a haunted house with the grandmaster of horror, Christopher Lee, and decide for yourself.

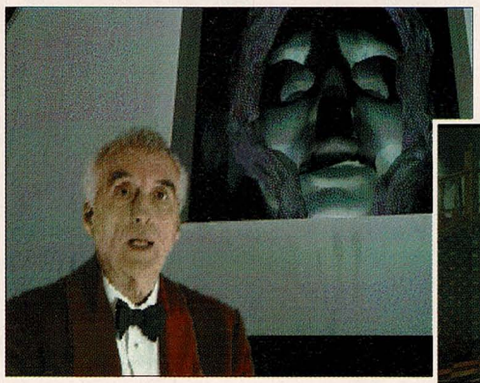
Can humans really defy nature and haunt the earth in search of a peace that they can never know? Or is this just a far-fetched folk tale designed to give us that quietly thrilling fear of the unknown? This CD-ROM invites you to decide for yourself at Hobbs Manor, a virtual haunted house that has many horrible hidden secrets...

Christopher Lee's dark, mellifluous tones welcome you to the deserted (or is it?) mansion. He plays Doctor Marcus Grimalkin, who's determined to discover the story behind ghosts: are they a simple hoax or an elaborate truth? *Ghosts* is in little doubt itself, but it does allow the sceptics to have their say.

The evidence to prove that ghosts do exist accumulates as you explore the house room by room. You have to click on objects you find to discover what secrets they hide. Testimonies from those who claim to have seen ghosts come in the form of videos and sound clips, and those who've devoted their lives to supporting or combating spectral forces are also interviewed.

The interface on this disc is as important as the information you can find with it. This interface isn't just extravagant – it's positively baroque. And yet it works well because it suits the subject matter. Hobbs Manor is a sleek, richly textured construction, and because of this, your experience of seeking out the information is enhanced. Under normal circumstances a program that takes several minutes to get you to a particular reference point wouldn't be such a great idea.

As you dig around you'll find the Book of Hauntings, a guide to buildings across Britain said to have been visited by a presence, while the Ghostly Glossary lies in a computer in one room. There's also a slide projector that has been left switched on – but by whom? Lee entertainingly narrates some folk tales of British



Christopher Lee is wont to pop up from time to time – here, he's about to relate the grisly tale of Wicked Jimmy. Don't read it on an empty stomach.

Hobbs Manor is home to many artifacts and files related to all things ghostly, and you have the run of the manor.

Gingerbread Man

Journey into the weird depths of alternative multimedia with the new CD-ROM from cult group The Residents.

This is the screen where you decide whose story you wish to be told by hearing snatches of each person's thoughts.

The Residents are a group who've brought alternative, experimental music to CD-ROM. They've been dabbling with music, video and live performance for two decades. Already gaining notoriety and acclaim for their first CD-ROM, *Freak Show* (see MACFORMAT 16), The Residents have returned with what they call an 'expanded album'. Eleven songs sit alongside a Mac-driven exploration of nine of those songs.

The concept of the Gingerbread Man is drawn from a traditional children's rhyme – 'Run, run as fast as you can / You can't catch me, I'm the Gingerbread Man'. Here, he's a disturbingly innocuous presence that haunts people's dreams and imaginations.

The Residents use the album to explore the lives of nine characters, from a has-been musician to a paranoid old woman. Each of their stories is told in fragments of words, music and pictures – it's up to you to tie the threads together. And this is the bonus of working with

'The Aging Musician' is about a man whose time in the spotlight is past, and is devoted to his guns and his dog.

CD-ROM. Film and books have remained relentlessly linear despite the wishes of experimental artists. So even if the story is told in a jumbled chronological order, it's still an order that's been decided by the story's creator. But here, the idea is that the way you discover the tales is out of the storytellers' hands.

The stories are compelling, and will no doubt gnaw at your subconscious for some time. But because of the format, with the

Another story tells of Nell Cook, who poisoned the canon after he took part in a few questionable deeds – but it doesn't end there... *Ghosts* has the full, gruesome details.

ghosts – with plots of murder and incest, by the way, so this isn't for the kiddies.

Ghosts may not have long-term appeal, but it is an entertaining supernatural exploration and it's conducted in a distinctive way that's ideal for its subject. *Richard Hill*

- **Price: £39.99. Out: now.**
- **Requires: any colour Mac with System 6.0.7 or later, 4Mb of RAM, a 13-inch monitor or larger and a double-speed CD drive.**
- **For more info call MDI on 0252 737630.**

MACFORMAT RATING **77%**

The most effective images were created by sculpting heads and getting photographs scanned into the Mac.

music for normal players taking the lion's share of the disc, the programmed section *The Gingerbread Man* is limited. Yes, there are unsettling images and haunting themes, but in the final analysis your interactivity is restricted to pressing buttons to trigger a limited range of predestined actions. *Richard Hill*

- **Price: £44.99. Out: now.**
- **Requires: Quadra 700 or better, System 7.1 or later, 8Mb of RAM and a double-speed CD-ROM drive.**
- **For more details contact BMG Interactive on 071 973 0011.**

MACFORMAT RATING **72%**

Warplanes

'Or how I learned to love the bomb.' Modern weapons and tactics are unveiled in this new reference guide.

If you needed confirmation of the frightening potency of modern weaponry, this is it. *Warplanes* is a reference guide that offers details on planes, their arms and the missions they have played a decisive role in over the last few decades.

Warplanes' main screen, which gives access to all areas, is designed in a fittingly military style. The core of the program is a database with information on planes and weapons. There's a lot of serial numbers and hard facts that will be of limited interest if you're not the airborne-carnage equivalent of a train-spotter *[Like Derek – Ed]*, but the entries are thorough. Photos and video clips are plentiful, but some entries are disappointingly bereft of either. If there's some particular area you're interested in – such as Turkish ground-to-air missiles – you can conduct a search to filter out the entries that don't apply.

The remainder of *Warplanes* focuses in more detail on specific campaigns – especially the Gulf War – and there's an enterprisingly wide selection on offer. You can see which planes took part, and how they were used. This is done with the help of animated scenarios, which you can watch or go through one frame at a time. These give you a good idea of the technicalities behind the strategies involved in administering destruction, death and mayhem.

One of the touches that takes *Warplanes* above the level of a typical encyclopedia is that after you've digested all the hard facts and watched the planes, you can try some of them out. There are three flight simulators, each with a different plane to fly and mission to accomplish. They're not up to the class of many of the separate flight sims you can buy, but they're competently done and are an inventive touch.

You can use the mouse to revolve 360 degrees around this F-14 Tomcat, and take a good look at the aircraft carrier.

With a few imaginative exceptions like the flight sims, *Warplanes* is a sturdy but uninspiring guide to armaments in the air. A wider perspective on the subject, bringing home the physical and psychological effects of warfare on people, would have added the missing human element. *Richard Hill*

- **Price: £54.99. Out: now.**
- **Requires: LCII or better with System 7 and 4Mb of RAM, or Power Mac with System 7.1.2 or later and 8Mb of RAM. Either Mac needs a 13-inch, 256-colour monitor and a CD-ROM drive.**
- **For more details contact Mindscape on 0444 246333.**

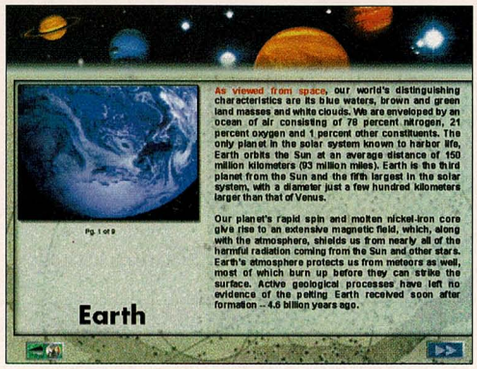
MACFORMAT RATING **70%**

One of the most successful parts of *Warplanes* shows you precisely how the planes are used in combat situations.

One screen lets you in to all the parts of *Warplanes*, including an in-depth look at the Gulf War.

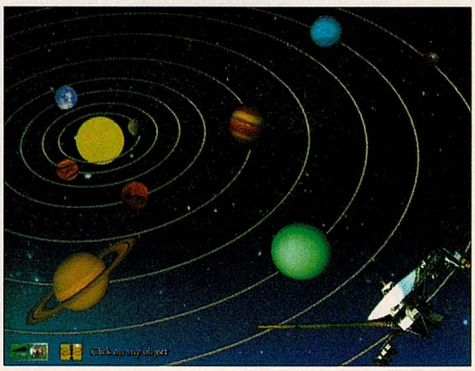
Voyage through the solar system

Introduce yourself to astronomy from the comfort of your armchair with this slickly produced multimedia package – it's cosmic!


As viewed from space, our world's distinguishing characteristics are its blue waters, brown and green land masses and white clouds. We are enveloped by an ocean of air consisting of 78 percent nitrogen, 21 percent oxygen and 1 percent other constituents. The only planet in the solar system known to harbor life, Earth orbits the Sun at an average distance of 150 million kilometers (93 million miles). Earth is the third planet from the Sun and the fifth largest in the solar system, with a diameter just a few hundred kilometers larger than that of Venus.
Pg. 1 of 9
Our planet's rapid spin and molten nickel-iron core give rise to an extensive magnetic field, which, along with the atmosphere, shields us from nearly all of the harmful radiation coming from the Sun and other stars. Earth's atmosphere protects us from meteors as well, most of which burn up before they can strike the surface. Active geological processes have left no evidence of the pelting Earth received soon after formation – 4.6 billion years ago.
Earth

The bulk of your Voyage will be spent in pages like this, with clearly-written introductory facts and vivid *QuickTime* clips.

If you want to stare knowingly at the stars but don't understand sky-glow, star-charts or the staccato chatter of Patrick Moore, then you could do worse than this CD-ROM. *Voyage Through The Solar System* takes you on your first step off this planet by whisking you away on a guided tour of the solar system, with computer animation showing you the sights. You're shown the grandeur of space without the baffling facts and figures.



This map is where your trip around the stars begins. Click on the satellite and you're shown the birth of the solar system.

This is a simple program to use. There's a diagram of the solar system – not to scale unless something's gone very wrong – and if you click on a planet, you're taken to an essay that tells you all about it. The text contains lots of basic scientific information, but it doesn't go over the top. If a word is highlighted in green, you can click on it to hear its correct pronunciation. If a word or phrase is in red, clicking on it triggers an altogether more exciting process...

You get a *QuickTime* video clip that enables you to view anything from the magnetic field of Uranus to giant Martian trenches. These clips are among the most glossily-produced I've seen. With the sincere tones of the narrators and smooth music, they may be too glossy for some, but you can't deny the professionalism on show here. The video is of excellent quality, showing computer animations of the type seen on many an edition of *Tomorrow's World*.

Additional sections, including a brief flirtation with astrology, give you reference charts so you can compare different aspects of the planets – but it's the videos and essays you'll return to time and time again.

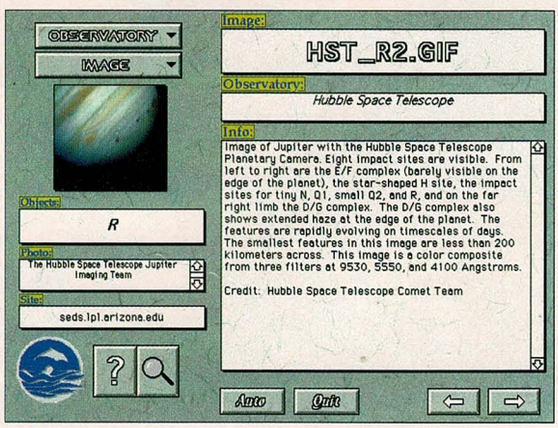
Voyage Through The Solar System is not about to revolutionise the design of CD-ROM programs, but its directness makes it immediately accessible, and it's expertly produced. The text does a good job of setting the video clips in a deeper context than a TV program might manage, so the effort of converting the movies to *QuickTime* has been justified. Gem is selling the title on a limited basis for the moment. You won't find the sheer depth of information that you get in the Classic-rated *Redshift* (see MACFORMAT 13), but this particular CD makes an excellent introduction to astronomy. *Richard Hill*

- **Price: £39.99. Out: now.**
- **Requires: LC or better, System 6.0.7 or later, at least 5Mb of RAM, 13-inch colour monitor and a CD-ROM drive.**
- **For more info call Gem on 0279 412441.**

MACFORMAT RATING 83%

Jupiter Impact

Bang! Crash! Wayward comet hits Jupiter. Fancy an action replay? Well you've got it with this somewhat specialised CD-ROM.


OBSERVATORY
IMAGE
Image:
HST_R2.GIF
Observatory:
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Info:
Image of Jupiter with the Hubble Space Telescope Planetary Camera. Eight impact sites are visible. From left to right are the E/F complex (barely visible on the edge of the planet), the star-shaped H site, the impact sites for tiny N, Q1, small Q2, and R, and on the far right limb the D/G complex. The D/G complex also shows extended haze at the edge of the planet. The features are rapidly evolving on timescales of days. The smallest features in this image are less than 200 kilometers across. This image is a color composite from three filters at 9530, 5550, and 4100 Angstroms.
Credit: Hubble Space Telescope Comet Team
Objects:
R
Photo:
The Hubble Space Telescope Jupiter Imaging Team
Site:
seds.lpl.arizona.edu
Auto
Quit

A basic interface hides loads of facts. You need a good knowledge of astronomy to make the most of this CD.

Jupiter Impact brings together a selection of photos and movies of the display we were treated to when the Shoemaker-Levy comet crashed into Jupiter's atmosphere last summer. The presentation is not slick – *Impact* would look completely out of place in one of those cosy family adverts for multimedia, with airbrushed kids using airbrushed interfaces.

This is CD-ROM in its most raw, elemental form. You have to pore your way through folders containing huge lists of files. There's a selection of *QuickTime* movies, which have been converted from sequences you might have seen on the TV – the Hubble Space Telescope no doubt came in handy here. The quality of the clips is patchy. Some are difficult to make out at all, with the problems of the original film being compounded by poor conversions.

Click on the icon shaped like the planet itself and you're presented with a browsing program. Here you can delve through the collection of photographs taken at observatories around the world during the days of the event. Background information is supplied with many of the images, but the text is often impenetrable to anyone who isn't a keen astronomer, with talk of microns and angstrom units littering the pages.

There is a great deal of useful information in *Jupiter Impact*, but it's best used as a resource for experts and enthusiasts rather than casual observers. *Richard Hill*

- **Price: £35.25. Out: now.**
- **Requires: any colour Mac with System 7 or later, at least 4Mb of RAM and a 12-inch screen.**
- **For more details contact Softline on 081 401 1234.**

MACFORMAT RATING 62%

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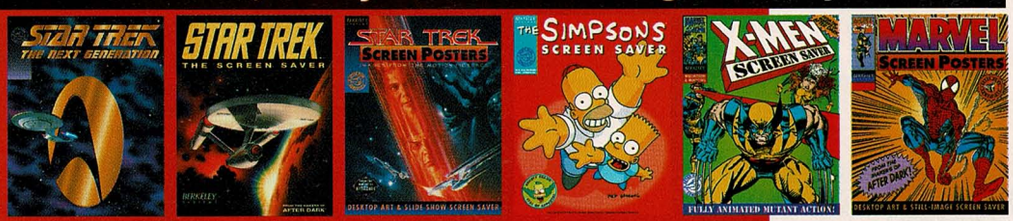
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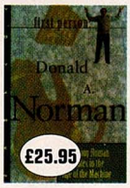

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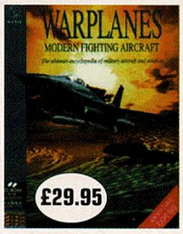

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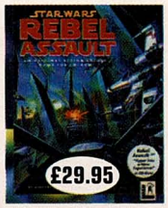

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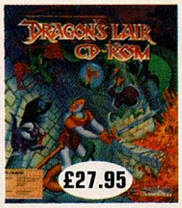

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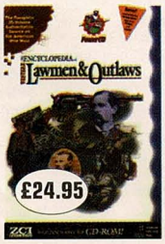

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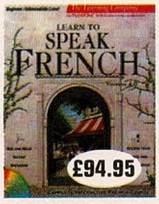

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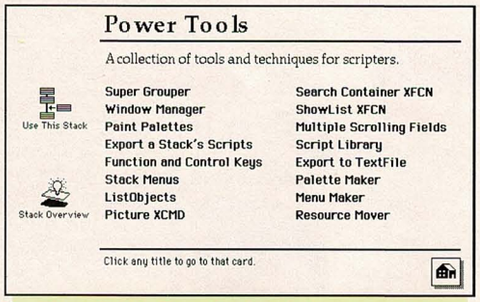
Power Tools for power users

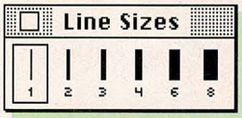
Programming with HyperCard gets a whole lot better if you can afford to splash out £150 for version 2.2. Rod Lawton explains why...

The most recent version of *HyperCard* might not be free like version 2.0, but it brings plenty of goodies to justify its price tag. We looked at some of them in MACFORMAT 20. This month we look at a stack (yeah, just one!) that contains some *HyperCard* tools with real power...

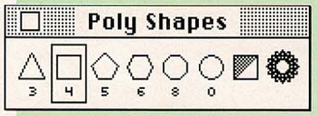
The stack is called, not surprisingly, Power Tools. It's available with all full versions of *HyperCard*. It contains a selection of XCMDs (eXternal CoMmanDs) and XFCNs (eXternal

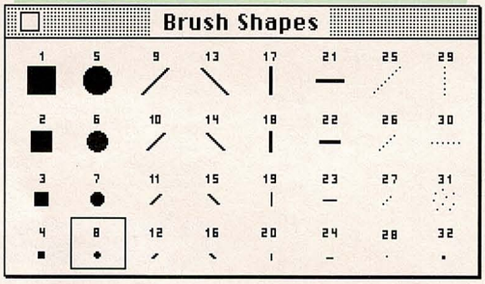


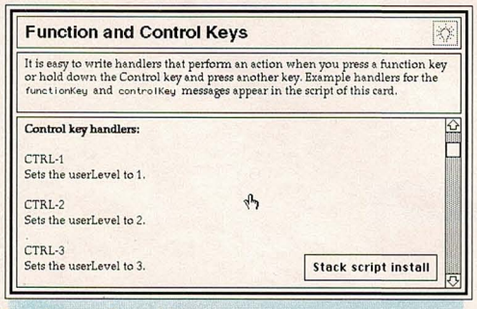
The title card of the Power Tools stack doesn't exactly look impressive, but start reading those descriptions and you begin to see the potential within your own stacks.



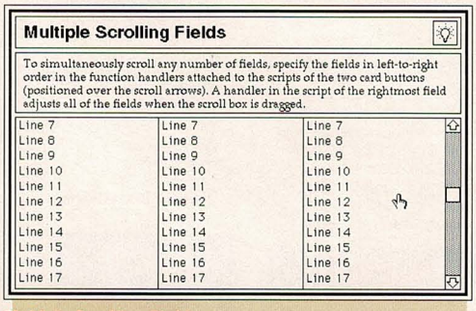
Paint Palettes. *HyperCard's* built-in paint tools may be a little on the crude side, but they're great for simple diagrams and illustrations, and are quick and painless to use. Even more so with the three palettes provided by the Paint Palettes card. These palettes enable you to select line thickness, polygon shapes and brush shapes without having to trudge through the normal dialogues. Useful if you have to run up lots of *HyperCard* illustrations fast.



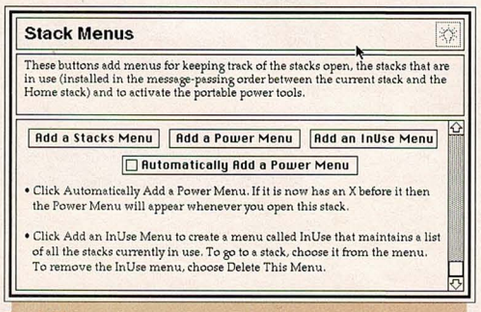



Function and Control Keys
It is easy to write handlers that perform an action when you press a function key or hold down the Control key and press another key. Example handlers for the functionKey and controlKey messages appear in the script of this card.
Control key handlers:
CTRL-1
Sets the userLevel to 1.
CTRL-2
Sets the userLevel to 2.
CTRL-3
Sets the userLevel to 3.
Stack script install

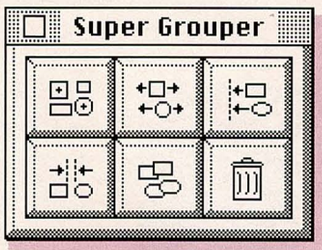
Function and Control Keys. There are two ways of adding your own commands to your stacks. The first is to construct new menus or menu items. This is the second – it enables you attach your commands to **[Command]**, **[Shift]** and **[Control]** key combinations. Any half-competent HyperTalk coder could do this anyway, but it might still be useful.


Multiple Scrolling Fields
To simultaneously scroll any number of fields, specify the fields in left-to-right order in the function handlers attached to the scripts of the two card buttons (positioned over the scroll arrows). A handler in the script of the rightmost field adjusts all of the fields when the scroll box is dragged.
Line 7
Line 8
Line 9
Line 10
Line 11
Line 12
Line 13
Line 14
Line 15
Line 16
Line 17

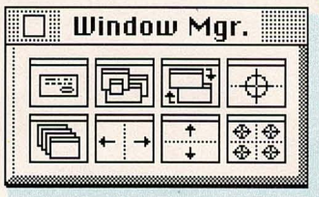
Multiple Scrolling Fields. *HyperCard* has a number of weaknesses. One of them is that you can't use tab-stops within fields. This means that if you want to present tabular information you need two fields side by side – and if there are more lines than will fit vertically on the screen, so that you need scrolling fields... well, you've got a problem. The handler on this card, though, enables you to 'join' two or more scrolling fields so that with one scroll bar you can move them all at the same time. Great idea. It would be even better if the scrolling worked at a fraction of the normal speed. But it doesn't. It's a bit of a HyperTalk bodge, and it's pretty amazing that it can be made to work at all. We use the word 'work' loosely. Sorry, but unless you're running a souped-up Quadra, this is more of a curiosity than a useful tool. Try coding this one yourself with a bit of HyperTalk, just for curiosity's sake. It might run slower, but I doubt it.


Stack Menus
These buttons add menus for keeping track of the stacks open, the stacks that are in use (installed in the message-passing order between the current stack and the Home stack) and to activate the portable power tools.
Add a Stacks Menu
Add a Power Menu
Add an InUse Menu
Automatically Add a Power Menu
• Click Automatically Add a Power Menu. If it is now has an X before it then the Power Menu will appear whenever you open this stack.
• Click Add an InUse Menu to create a menu called InUse that maintains a list of all the stacks currently in use. To go to a stack, choose it from the menu. To remove the InUse menu, choose Delete This Menu.

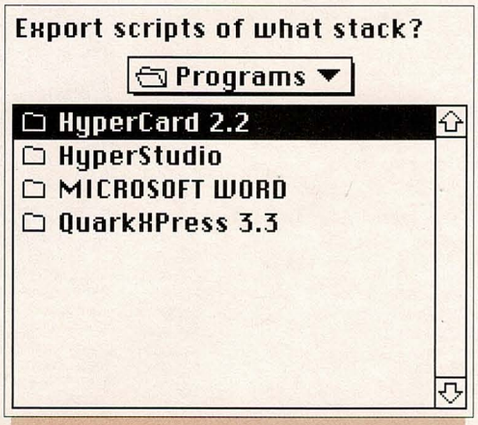
Stack Menus. Excellent, this. If you have lots of stacks open at once you can add a menu that lists them all and enables you to go straight to them. Meanwhile the **Power** menu lists all the palettes currently available, and opens the one you select. The **InUse** menu lists all the stacks currently being 'shared', again enabling you to go straight to the one you select. This is probably the single most useful tool here!



Super Grouper. *HyperCard* makes it easy to create lots of fields and buttons. And duplicating them is easier still. What's not so easy is moving them about en masse, spacing them equally, or aligning them accurately. In fact, *HyperCard* has no facilities whatsoever for modifying more than one object at a time. Which is why the Super Grouper palette is so useful. It enables you to do everything you can with single buttons or fields – but on whole groups of them. As long as you are 'sharing' the Power Tools stack, this palette will always be available – and it can save a lot of time.



Window Manager. If you regularly work with more than one *HyperCard* window open at once, you'll be used to dragging the windows around and resizing them so that you can see parts of them all and move between them easily. It's always a little bit fiddly and untidy though, isn't it? Well, the Window Manager palette offers information about each window, lists all those currently open, enables you to move to the next in sequence and can centre windows on-screen. Not only that, if you've got two open it will tile them side by side or one above the other. Four open, and it will display them in four quarters of the screen. More than that, and it can 'cascade' them. But how many windows do *you* open at once? Quite...



Export a Stack's Scripts. If you want to save all the scripts in a stack as a single text document, this tool makes it easy. Why should you want to do it? Well, it's not unknown for HyperTalk coders to get into trouble with clashing handler names or other coding nightmares. By exporting all the scripts into a single document, it's going to be a lot easier to cross-reference variables, check handler names and generally debug bad stacks. There are probably other good reasons for exporting all your scripts into a single document too.

FunCtioNs), handlers and palettes. Some of them are real beauties. In fact, if you were to sit down and write a list of all the features they should have added to *HyperCard* and didn't, then after a look at the Power Tools stack you'd be crossing half of them off.

It's such a great stack, we'll devote all of this month's *HyperCard* pages to it – and even then we can only give you a taste of what these tools can do. They're not *all* spectacularly useful – only half of them really grabbed me – but the ones that are useful are very useful indeed.

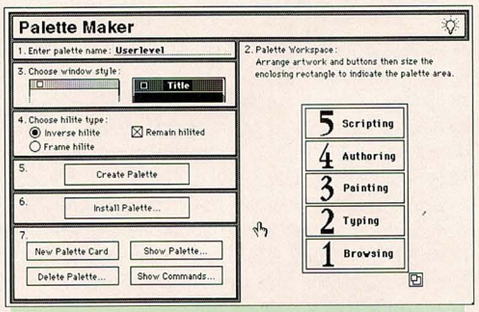
If you're serious about developing *HyperCard* stacks and applications, you really do need to get hold of this Power Tools stack.

Some of its features are based on HyperTalk code that any competent HyperTalk programmer could duplicate, but others work via XCMDs and XFCNs that are created in other languages. These are especially efficient because they are compiled into machine code and run many times faster than raw HyperTalk code – and often do things HyperTalk can't.

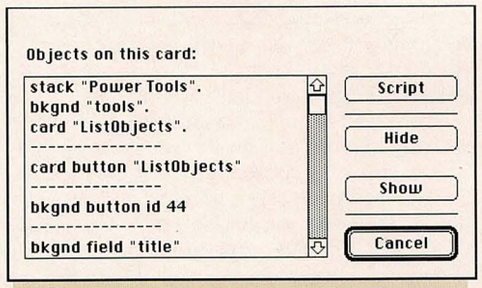
In fact, HyperTalk's ability to incorporate 'plug-in code' is one of the keys to its versatility, as we shall see next month... *Rod Lawton*

NEXT MONTH

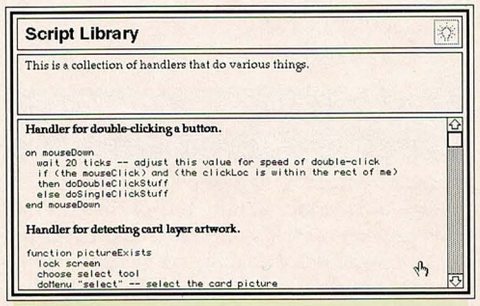
What else do you get with the latest, full version of *HyperCard 2.2*? We'll be rounding up the remaining goodies in the third and final part of this upgrade special next month. Last – but by no means least – find out: how to run *HyperCard* in colour, how to create graphs from raw data; how to handle *QuickTime* animations. Plus, you'll get an introduction to Apple's important AppleScript software...



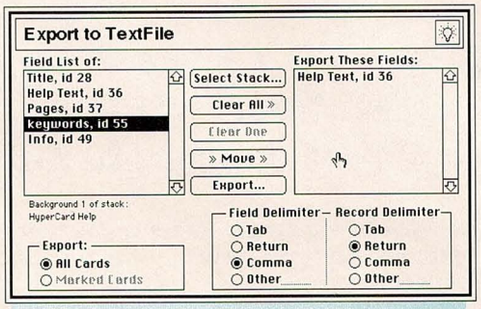
Palette Maker. A wonderful gadget. There are several excellent palettes with this stack, but this card enables you to design your own and install them into individual stacks. This gives the ambitious stack designer yet another string to his or her bow. Palettes are a great way of displaying commands because you can hide them when you don't need them and drag them around the screen at will to keep them out of the way when you do. The palettes you design can only cope with one line of HyperTalk code, but you can define this as a message and intercept it at stack level with a handler.



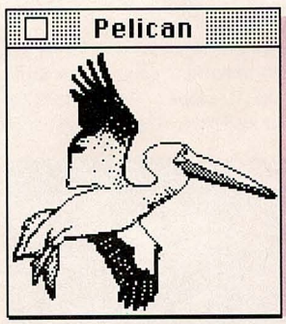
ListObjects. I hope you don't develop stacks the same way I do: by creating fields and buttons left, right and centre, giving them names you forget and then hiding half of them until you need them to 'keep the decks clear'. Needless to say, it's pretty hard to re-show a card when you've forgotten its name. Enter the **ListObjects** command. It tells you the stack, background and card names and lists all the buttons and fields on it – now there's no excuse for not clearing up.


Script Library
This is a collection of handlers that do various things.
Handler for double-clicking a button.
on mouseDown
wait 20 ticks -- adjust this value for speed of double-click
if (the mouseClick) and (the clickLoc is within the rect of me)
then doDoubleClickStuff
else doSingleClickStuff
end mouseDown
Handler for detecting card layer artwork.
function pictureExists
lock screen
choose select tool
doMenu "select" -- select the card picture

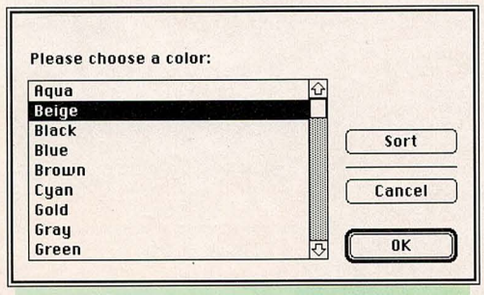
Script Library. Most of us have a collection of handlers that do useful things that we're really rather pleased with. This is one of those collections. Take a look through to see if there's anything interesting, but don't expect every one to be a gem.



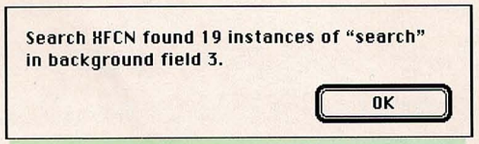
Export to TextFile. This is very handy if you work with databases or multimedia documents – which is pretty likely since this is what *HyperCard* was built for. It enables you to export the contents of named background fields into a single text file, with various options like all cards/marked cards only and delimiter types. Two uses immediately come to mind: (a) if you want to export the contents of a *HyperCard* database in a form that another commercial database package can use; (b) if you've constructed a multimedia 'book' and you want to export the raw text for use in another application.



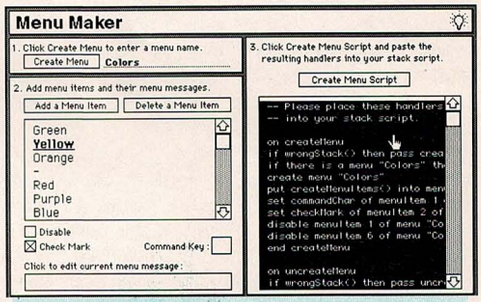
Picture XCMD. This is a bit of a puzzle. Not because the **Picture** command isn't useful – it is – but it's built into *HyperCard* anyway, without this Power Tools stack. Never mind, this card does provide some useful in-depth reference to the command, which isn't *HyperCard's* best-documented feature.



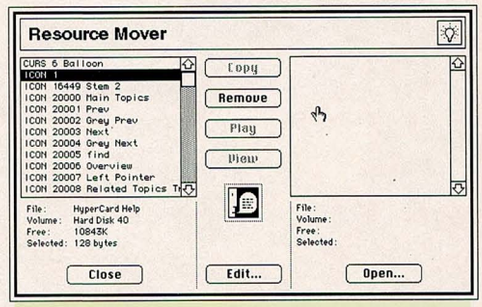
ShowList XFCN. You thought *HyperCard's* user interface was about as customisable as possible? Think again. Not only can you build custom menus and display prompts and question-and-answer boxes, you can display multi-choice dialogues too, thanks to this **XFCN**. The length of the scrolling list of options is limited only by memory, and selecting an option returns the option name so that you can intercept it with a HyperTalk handler in the card, background or stack script. Again, this **XFCN** can be installed into your stacks.



Search Container XFCN. Very useful. Er, maybe. This external function **(XFCN)** checks a field for occurrences of a text string and tells you how many times it found it. The good news is that this function can be installed in any of your stacks. The bad news is that I can't really think of a use for it. It's easy enough to find if a field contains a string anyway. It's not so easy to find out how many times it occurs, though, so yes, it is useful in that respect. Er, next question?



Menu Maker. HyperTalk includes all the commands you need for creating, editing and customising menus. But you have to be a bit of a wirehead to make sense of it all – which is why this is such a great alternative. The Menu Maker doesn't produce any HyperTalk code you couldn't have written yourself, but it does let you build menus via a friendly front-end, rather than reams of obscure commands you have to keep looking up in a book. An excellent tool for people creating stand-alone applications with special menus.



Resource Mover. If you haven't already wrecked your Mac by fiddling with the copy of *ResEdit* given away with MACFORMAT some moons ago, here's another chance to do it. The Resource Mover is really designed for swapping icons, sound files and other widgets between *HyperCard* stacks. But it's also perfectly capable of dipping into other applications and files to raid their resources. It's probably very naughty, almost certainly hazardous and it's not entirely clear what's going on. But maybe if you read the instructions enough times it will all become a bit clearer. I guess I haven't read them enough times yet... Not too keen on this one.

Save the Rainforest

Logo isn't just a jazzy emblem – it's a gateway to learning for kids of all ages. Phil Moore explores a program that's more than it first appears to be.

For the last few years, young children have been playing with turtles at school – not the type that live in water, but ones that are controlled by a computer. By typing in simple commands, children instruct the little machines to travel over large pieces of paper, leaving a trail of ink to show where they've been, creating patterns or shapes. In doing this, children learn powerful concepts and ideas that can be applied to maths and other areas of the curriculum.

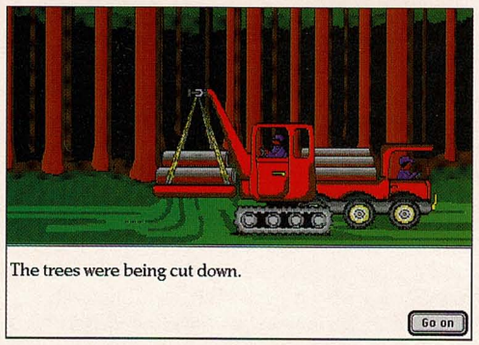
Logo is a fairly simple language. It uses a limited easy-to-learn set of commands like left, right, forward and backward combined with a number, which relates either to the number of degrees in a turn, the distance to be travelled or the number of repetitions. As children learn this language, they start to use procedures – sequences of commands saved under a specific name – in a fun environment. For example they can draw a straightforward box by typing in the following commands:

```
repeat 4
forward 10
right 90
end
```

This procedure could be called **box**. You can then include **box** in further procedures, giving each of them new names, and so on.

While this may seem rather simple, many teachers use this to enable children to understand an important concept in Maths – breaking complex things down into simple, repeated actions. It also starts getting children thinking about representing something by something else, or basic algebra as we knew it.

Many methods are used in schools to teach Logo, and all of them involve trying to get children to sneak up on it rather than teaching them the language explicitly. 'People Logo' is one approach, where a child follows spoken Logo commands given by the rest of the group in order to get from one place to another, avoiding any obstacles (a good party game!). However, Sherston has produced a program that introduces children to Logo in a really painless way. It was originally programmed for the Acorn Archimedes – a common computer in schools – but has just become available for the Mac. It's aimed at upper Junior children (7-11), and it really is great fun.



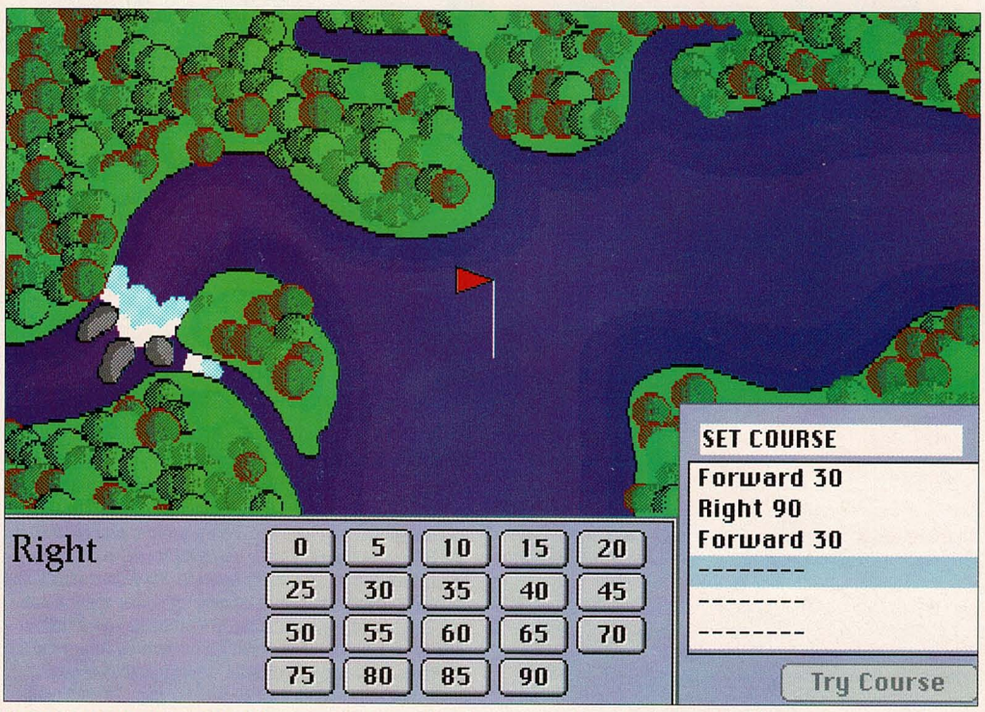
These are lumberjacks, but they're not OK. They're destroying the rain forests and adding to global warming (...and they wear high heels, suspenders and a bra?).

The Crystal Rainforest

This program begins with a short story about the destruction of the rainforests on the planet Oglo at the hands of the Cut and Run Gang, who are hungry for profits. The King of Oglo tries to stop them, but is poisoned and lies dangerously ill in hospital. The challenge for you is to save him and, ultimately, protect the remaining forest on Oglo. You can do this by finding magic crystals, which used to abound in the forest. These crystals are the only known antidote to the poison.

Professor Roberts is an elusive scientist who is trying to create the magic crystals in his laboratory, but he's hidden away in Bridgetown. His laboratory is inside a pyramid and your first task is to guide a robot to open some doors within the pyramid, using primitive Logo commands. Unfortunately, having done all that, you discover the Professor is not home, so you have to explore the town in order to find him.

You're presented with a map and you move around by using a pointer. Initially, you have to move the pointer by choosing directions such as left, right and forward. If you choose to turn, you're asked how many degrees the pointer should move through. There's no need to panic, though, because you can choose the degree of the angle from a list and you can experiment by clicking on one and seeing if that's



By steering the boat around the lake you gradually learn how to program in Logo. I wonder where this is going to get me?

JARGON BUSTERS

Logo: a computer language based on the work of Seymour Papert, one of the parents of educational computing. Its simple, direct vocabulary enables even very young children to write a program.
Turtle: a programmable toy controlled by children writing simple programs on a computer in the Logo language.

SHERSTON SOFTWARE – WHO?

Started by two ex primary school teachers, and based in Malmesbury, Sherston Software has built its reputation in education circles through developing a range of award-winning software. Their products are designed to be non-sexist, non-racist and non-violent and as much fun as possible for users, while achieving good educational aims. All their programs are trialled in schools before being released, which is possibly part of the reason why their programs have won Educational Computing's Gold Award for four out of the last five years.

In the next couple of months, Sherston will be releasing a number of 'Talking Books' for the Mac. The titles are all taken from the Oxford Reading Tree, which is one of the most popular reading schemes in the country. Watch out for any more details of these in MACFORMAT.

right. In fact, the streets of Bridgetown weren't planned by British architects, so they're very regular and most of the turns are 90 degrees.

As you move around, you gradually become practised at judging not only the right number of degrees to turn, but also how far to move forward in order to reach where you want to go. So you gradually start learning how to program in Logo.

This is extended in the next part of the program, when you have to steer a boat using the boat's computer – subtle, eh? The computer only accepts Logo commands, of course, so while you're concentrating on moving the boat up the river, you're using Logo for a clear purpose and seeing immediate results.

The final hurdle to saving the Professor, the King and the rainforest is to use a full Logo program to create a crystal. You colour it in, tell the computer to use it and have the great satisfaction of seeing the goodies win and the baddies get their comeuppance. This strong storyline is part of the program's appeal.

One of the joys of the program is that it's not just about Logo. There are clear environmental issues raised, and the activities have a strong connection with a number of areas of the curriculum, including Maths, Geography, and Science. These connections are drawn on in the Teacher's Book, which gives a number of suggestions for activities in those areas. Many of these activities can be done at home, and if you do tackle them with your child they can be a very effective way of finding out what your child is learning at school.

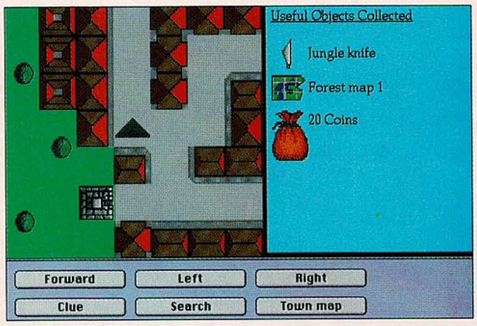
Other documentation that comes with the program includes some very colourful maps, a little Logo handbook, a couple of posters and a fact sheet about the jaguar, all of which could prove good models for children to create their own resources based on the ideas presented within the program. The documentation is clear and easy to understand, with separate cards explaining the puzzles in the program and a leaflet explaining how the activities relate to the Curriculum.

It is possible to save screens from the program by pressing **[command] [Shift] 3**, saving the screen as a PICT file, which can then be incorporated into documents. However, one real drawback is that it's not possible just to print out the Logo programs, or the designs created when using Logo. If you want to do either of those things, you've got to do some cutting and pasting of the screen grabs.

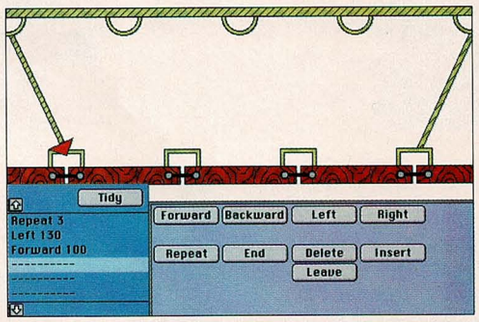
It's also very obvious that the graphics have been translated from another computer; children are fairly used to slick graphics on the Mac and the animated portions of the program are fairly slow and a little jerky.

Nevertheless, this is a really good program and one that will keep your children amused for some time. If you speak to your child's teacher about using Logo at home and find out what is happening at school, using this program could be a really effective way of helping your child's education.

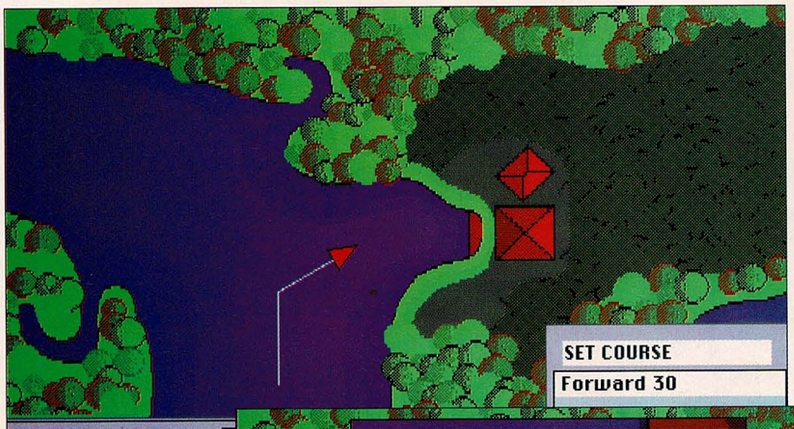
Phil Moore



You are the green triangle and the boxes are buildings. Try to manouevre around them without hitting any of them.



Here is one of the puzzles. Could you do this? Only if you've worked your way through the program.



The idea is to dock gently at the jetty on the right...

...just like that! It's really easy when you know how.

THE CRYSTAL RAINFOREST

Price: £46.95.
Requires: any colour Mac with System 7 or higher, at least 1.2Mb of RAM.
For more details contact Sherston on 01666 840433.

Features A shame that printing is not straightforward.	87%
Ease of use Even young children can use this.	90%
Documentation Good ideas and clear connections to the National Curriculum.	92%
Educational Value Lots of potential in this program.	92%
MACFORMAT RATING	89%

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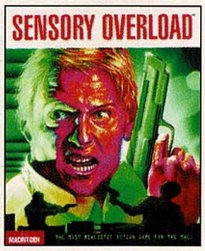

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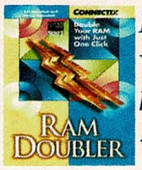

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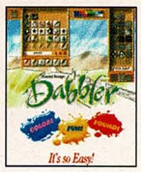

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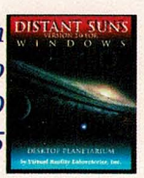

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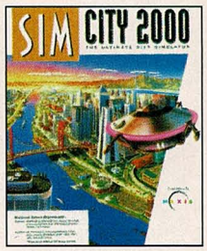

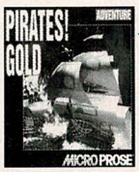

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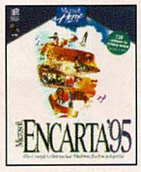

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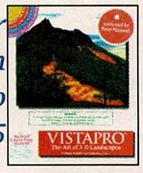

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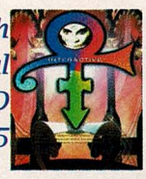

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Please call for prices of PRINTER RAM

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IIvi–Colour Classic	£32
LCIII–Performa 450	£32
IIvx–Duo–Performa 600	£32
LC475–Performa 475 ***(Full 68040)***	£175

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512K VRAM *(LC, LCIII, Performa 400–600, IIvi/vx, Duo and PowerMac 8100)*	£25

Educational and Goverment departments are welcome to purchase with official orders. Ask for our free product guide.

TERMS and CONDITIONS

All prices exclude VAT and delivery. Payment with order by VISA, Access, Mastercard, American Express, Switch, Delta or cheque (payable to Mygate Ltd.) Prices subject to change without notice. Offers subject to availability. All trade marks acknowledged. E & O.E.

MACINTOSH

Performa 460 4/160 *with 14" Display & k/b*	£725
Performa 475 4/250 *with 14" Display & k/b*	£805
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Perf. 630 8/250 CD *with 15" Display & k/b*	£1209
Perf. 630 8/350 CD *with V-In, TV, 15" Disp.*	£1375
Quadra 630 4/250 *with k/b*	£865
PowerBook 150 4/120	£915
PowerBook 520 4/160	£1479
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PowerBook 540C 4/320	£3099
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Please call for any configuration

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DecLaser 1152 *(300dpi, 4ppm)*	£479
TI MicroLaser PRO600 *(600dpi, 8ppm)*	£825
GEC Elite 600 *(600dpi, 10ppm, edge to edge)*	£999
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Agfa Arcus II *(incl. trans & full PS)*	£2269
UMAX PowerLook Pro *(incl. trans & full PS)*	£2650

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340MB *(Fujitsu)*	2	£140	£215
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AV Drives & 1.7, 2, 4, 9GB	5	CALL	CALL

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PowerMac 7100/66 8/500 CD	£1959
PowerMac 7100/66 8/500 CD AV	£2085
PowerMac 8100/80 16/1000 CD	£3455
PowerMac 8100/80 16/500 CD AV	£3255
PowerMac 8100/110 16/2000 CD	£3995
Soft Windows	£115

The PowerPC can run both current Macintosh and IBM PC software (using SoftWindows)

Call for advice on the right model for you

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44MB/88MB Syquest Disks	£41.00/£52.00
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MACANSWERS

GOT A PROBLEM WITH YOUR MAC? WE'RE HERE TO SOLVE IT!

Whatever your Mac problems we're confident that MACFORMAT'S experts can solve them. All you have to do is fill in the form on page 90 – or photocopy it if you don't want to cut up your copy of MACFORMAT – and then post or fax it to us. Include as much detail as you possibly can about your setup and the software you're running, in particular the version number (to get this, highlight the program icon, then select **Get Info** in the **File** menu or press **[command] I**).

Please note that we are unable to answer questions over the phone – so there's no point ringing us up with technical enquiries. We're also unable to enter into personal correspondence – even if you enclose an SAE.

Do-it-yourself problem solving

One of the main causes of a program not working properly is something called an INIT clash – this ominous-sounding term means your program isn't happy with one of the system-level Extensions (INITs in System 6) that are running.

Fortunately, it's easy to check if this is the case. First of all, restart your Mac without any System Extensions (INITs). If you're running System 7.0 or above, that means restarting the Mac and holding down the **[shift]** key – a message telling you **'Extensions Off'** will appear. For any System version below 7.0, move all the Control Panels and INITs out of your System Folder and restart the Mac.

If your program now works, it must have been unhappy with one or more of the INITs. The only way to work out which one is the culprit is to move them all out of the System Folder, then put them back in one at a time – not forgetting to restart your Mac after each one – and test the program again after each one has been replaced.

Perhaps Santa brought you a PowerMac or RAM upgrade, but if all you got for Christmas was a problem, then don't despair: Bob Dormon, Simon Cox, Jim Chandler and Derek Smith are here just waiting to help you out.

Awkward Quadra

COMPATIBILITY

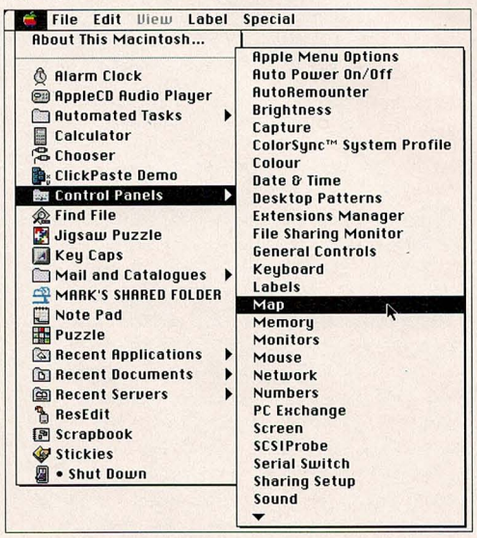
Q BeHierarchic 2.0 *and* SmartKeys 2.1 *won't run on my Quadra 660AV. They're just about my most valuable controls. Can I get an update of both or can I doctor the Quadra's own software?*

Dr Gilbert MacKay
University of Strathclyde, Glasgow

A *BeHierarchic* is an Extension that creates a hierarchical Apple menu and *SmartKeys* is a typing assistant. Both pieces of software are quite old and are available as shareware, although *BeHierarchic 2.0* is now commercial. I did some exploring on the Internet, but couldn't find newer versions of either program.

There are a few options open to you. First, make sure that it really is these two Extensions that are causing the problem. The easiest way to do this is to use an Extension manager to disable all Extensions and Control Panels, except for *BeHierarchic* and *SmartKeys* (System 7.5 has an Extension manager built in). And try changing the order in which the Extensions load by changing their names. For instance, rename *SmartKeys* to *ASmartKeys*.

System 7.5 has a hierarchial menu capability built-in, or you can get that (and a lot more) in *Now Utilities*, which costs £63.50 from Frontline, who you can contact on 0256 463344. But I don't know of any alternative to *SmartKeys*, except learning to type properly. *SC*



System 7.5 utilises the idea of hierarchical menus popularised by the shareware program *BeHierarchic 1.0*.

Atari owner converted

ATARI ST

Q *In the January issue of* MACFORMAT *you included a shareware* GraphicConverter *that enables conversion of Atari ST files (among others) to the Mac. As a former Mega ST owner, I still have a lot of artwork in* Degas *and* TINY *formats that I would like to re-use on my Mac. I've tried* Norton *and* SUM *without success. Any suggestions?*

H G Spaan
Malaga, Spain

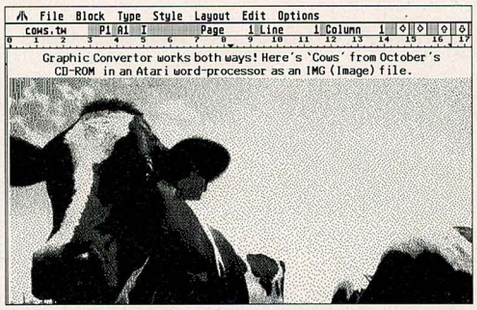
A I'm not sure why you tried to use *Norton Utilities* to solve your problem. I can only assume that you inserted an Atari ST floppy into your Mac and got the message that your Mac could not use it. This message is perfectly normal as Macs cannot read Atari ST disks.

This may seem to be a rather sticky problem, until you realise that your Atari ST can read and write to PC-formatted disks. The Mac can also handle PC disks with one of two pieces of software. Use either *Apple File Exchange* (you'll find this on your System disks) or *PC Exchange* (supplied with System 7.5 or available from Apple dealers separately for around £35).

Step 1. You need a double density disk. Atari STs were only supplied with double-sided, double density (700k) disk drives (some were even single-sided). If you try to use a high density disk (1.4Mb), the ST won't recognise it.

Step 2. Format the disk to become a PC disk. If you don't have a PC propping up a wobbly table somewhere, the simplest method is to do the PC formatting using *Apple File Exchange* itself. You can also get the Atari ST to create PC format disks. More recent versions of TOS (the Atari operating system) can do this, or you can easily find shareware PC formatters. There was one included on cover-disk number five of our sister magazine, *ST Format*.

Step 3. You now have to get your ST artwork ready to be copied on to the floppy. Some ST software handles IMG files in idiosyncratic ways, causing it not to convert properly. If you have problems, *Canvas* (on cover disk 34 of *ST Format*) can save your work as an IMG file, which will work fine with *GraphicConverter*. If


File Block Type Style Layout Edit Options
cows.tw
Graphic Convertor works both ways! Here's 'Cows' from October's CD-ROM in an Atari word-processor as an IMG (Image) file.

GraphicConverter is a great shareware program that can convert Mac files to the Atari ST IMG (Image) format or Atari ST files to a Macintosh format. You'll find a copy of *GraphicConverter* on this month's MACFORMAT CD-ROM.

you're still having trouble getting your Atari file into a suitable format, then you can take a screen-shot of it. GST Holding's *Snapshot* accessory can save in *Degas* format and *GraphicConverter* is quite content with this.

Step 4. Copy the file on to your floppy and you're now ready to transfer the file to your Mac. If you have *PC Exchange* then just insert the floppy into your Mac and the file can be dragged on to your hard disk. If you don't have *PC Exchange* then open *Apple File Exchange* and convert it by clicking on **Transfer**.

Step 5. Use *GraphicConverter* to convert the file to whatever format you need. Hey presto! You're all finished. *BD*

Invisible CD-ROMs

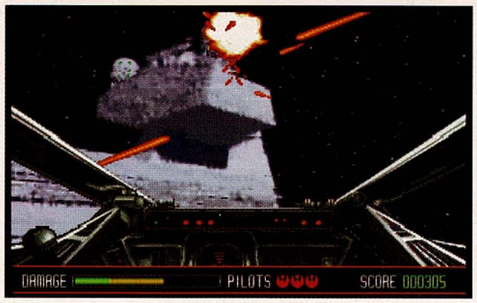
CD-ROM

Q *Whenever I insert your cover CD-ROMs into my drive I get a message saying 'The disk could not be used because it could not be found'. If I click* **OK**, *the disk will finally mount and everything is fine. It happens with all of your CD-ROMs. Why does this happen and how can I get around it?*

Michael Mortensen
Northwood, Middlesex

A This had me puzzled for a while because I'd heard the same problem from a few different sources, although I have never had the message myself. The problem appears to lie with a piece of software called *FWB CD-ROM Toolkit*, which I note you're using. Quite why this happens is unclear but it seems to have something to do with the System 6 Desktop file on our CD-ROMs.

When we create the master CD-ROM, we create a System 6 Desktop file so that the CD-ROM will work on Macs running System 6. But this file is not quite standard and this seems to confuse *FWB CD-ROM Toolkit*. There is no easy way around the problem except to de-install the software. It's interesting to note that the same utility caused another problem with the *Rebel Assault* demo on MACFORMAT 18's CD, and has to be removed for the demo to run.



Problems with the *Rebel Assault* demo on MACFORMAT 18 cover CD were caused by its copy protection. Why a 60Mb demo needs copy protection is beyond me.

The non-standard System 6 Desktop file may also cause your virus checker to bring up an alert. This is because of two resources included in the file that are not normally present in System 7 Desktops. Don't worry: it's definitely *not* a virus and the resources *should* be there.

It really doesn't matter how simple a task is, computers can always manage to make them far more complicated. *DS*

Port in a storm

NETWORKING

Q *Because my Mac is connected both to a printer and a network, both serial ports are in use. I also want to use a fax modem. How can I connect one to my Mac? The other Macs on the network have printers connected too.*

David Leitch
Lonsdale School, Stevenage

A The simplest way would be to unplug the printer, and attach a fax modem in its place. But this will result in wear on your port.

I note that you're using a StyleWriter II printer. This can be shared over a network using the *GreyShare* software that's provided with the printer. So unless every computer on the network has a printer attached to it (a strange network indeed), you could attach your printer to another machine and have the modem attached to your Mac.

You can do exactly the same thing with a modem but you will need to purchase extra software to share it. *PortShare Lite* is perfect for the job and can be purchased from Network Analysis Ltd for £82.25. Phone 0203 419996 or e-Mail **sales@network-analysis-ltd.co.uk**, or try out the demo on this month's CD-ROM.

You could buy a modem from Global Village's Teleport range. These modems attach to the Apple Desktop Bus port, like a keyboard, and so leave the serial port free. The modems are distributed by Frontline, tel: 0256 20534.

The best, and by far the most expensive, option is to get a networkable modem. Models like the Shiva NetModem start at about £350 for a 2,400 baud modem, and rise to a whopping £1,000 or so for a 9,600 baud machine. At

A modem is a handy thing to have attached to your Mac, but not if a printer and network adaptor got there first.

THE SOUND OF MACINTOSH

Beyond the basic Sound Manager, digital sound recording on the Mac would appear to be a black art. Even my old *Mac Bible* bears this out: only five pages are devoted to the subject. That's only 0.4% of the swollen scripture! Recent readers' letters to MacAnswers suggest that as 'you've boldly gone where no band's gone before...' there've been a few casualties.

The long & winding road

MUSIC

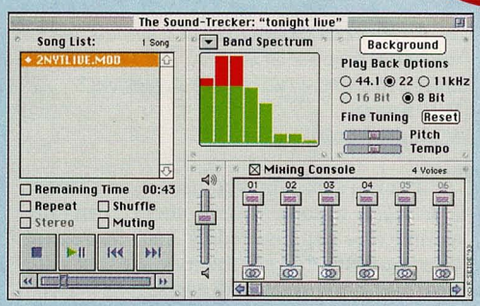
Q *I love the shareware program* SoundTrecker *(which was on the MACFORMAT 14 cover-disk) and noticed that some of the samples were as long as five minutes. I'd like to be able to sample tracks from albums but Apple's Sound Manager only allows for ten seconds and the mic on my Colour Classic picks up the noise from the fan.*

How can I get a direct link from my hi-fi to my Mac and what cables and software do I need?

Alasdair Paterson
Hawick, Roxburghshire

A First of all, you're under a misapprehension about the sample lengths on *SoundTrecker*. The tunes do go on for a while but they consist of short samples that are repeated and altered. The play-back information is stored in a MOD file format, together with the samples.

SoundMachine, SoundApp and SoundTrecker are on this month's CD-ROM



SoundTrecker (on MACFORMAT 14's cover disk) is a great way to get involved in making music with your Mac. You can use the clicking sound of your floppy drive as a backbeat.

This is why the file is much smaller than a sample of the same length.

The comprehensive *SoundTrecker* manual describes the differences between MOD files and conventional sampling.

As for sampling on your Colour Classic, if you want to get serious then Digidesign's Audiomedia LC is designed to address this problem. But be prepared to spend serious money. Previously only Macs with NuBus slots could take advantage of third-party stereo sampling boards, as PDS models like all the Macs with an integrated monitor went unsupported.

Nowadays 16-bit stereo sound capability is standard on most new Macs. Unfortunately getting CD quality sound into an old Mac is an expensive affair, as you'll find this hardware costs about the same as the computer itself! Try to get hold of Audiomedia LC; it's bundled with Digidesign's *Sound Designer 2*.

Audiomedia LC not only edits and EQs

those prices it would be better to buy a fast modem and a second Mac to attach it to! *JC*

Getting the point

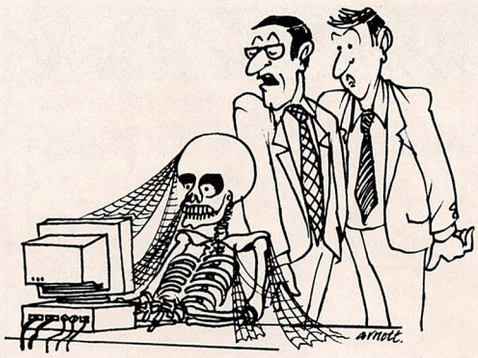
MATHS CO-PROCESSORS

Q *I have an LC475 and am deprived of a Floating Point Unit. I used to have an LCII and used a shareware utility called* Software FPU *but this refuses to work on my LC475. I am in desperate need of a floating point unit and therefore need help!*
A Lim
London SW7

A I'm afraid that there's nothing you can do. The LC475 is based on the 68LC040 chip, which is a cut-down version of the standard 68040 CPU (Central Processing Unit) used in Quadras. The 68040 contains an FPU but the 68LC040 lacks one. A Floating Point Unit or 'maths co-processor' speeds up programs that rely on intensive mathematical calculations such as spreadsheets, 3D graphics renderers and Computer Aided Design programs. Without an FPU, these programs can be painfully slow, or in some cases they refuse to run at all. Apple uses the 68LC040 because it's cheaper than the full 68040, which suggests that the 'LC' stands for 'Low Cost'.

Unfortunately the version of the 68LC040 that Apple is using has a bug in it that prevents *Software FPU* from working properly. According to the documentation that comes with version 3.0 of *Software FPU*, it will load but may not work with all applications. The documentation states that Motorola is currently fixing the chip and is hoping to bring out a revised 68LC040 any time now.

It should be noted that there's an enormous speed difference between a machine with an FPU and a machine attempting to emulate one with *Software FPU*. If you are in desperate need of an FPU then you should consider upgrading your machine to one with a full FPU. *JC*



'We're still considering whether our accounts department really need maths co-processors.'

Surfing accident

INTERNET

Q *I've been looking for shareware software on the Internet. I can get on to the Internet from university through JANET (Joint Academic NETwork). I found the program I wanted at Imperial College, but I have no idea how to download the software to my LCIII. I tried using the* ***get*** *command through* Kermit, *but this didn't work. Can you tell me how to download this software on to my Mac?*
Matthew Brown
Wimborne, Dorset

A Well, you don't have a problem – I'm afraid you have two! You don't say what type of computer you're using to access JANET, but I assume that it's your university system. If so, your problems are: how to get the software to your university computer; and how to get it from there to your Mac.

Now is a good time to start being nice to your system manager. First off, you will need to find out if your university computer runs an FTP program. FTP stands for File Transfer Protocol, and is a standard method of moving files from one place to another. Once you have run your FTP software, you can then log back on to Imperial College, locate your file, and use the **get** command to download it to your college system.

Then seek out your system manager again, because you've got to get it on to a Mac disk. If there are Macs (or even PCs) attached to the network, it may be possible to move the file to one of them. If not, you may have to bring in your Mac, attach it to the university machine using a serial cable, and use *Kermit* to transfer your file. In all stages, your system manager's goodwill will be invaluable. I'm willing to bet that you won't be the first person to want to do this. Or you can try going through an on-line service like CIX – see page 67. *JC*

Ease the problem

SYSTEM SOFTWARE

Q *I moved the* At Ease *icon from the System Folder to the Desktop and restarted, expecting* At Ease *not to operate. But instead I got a bomb message that said, 'Sorry, a system error occurred. HP Background. Error type 41' and a Restart button, which just kept giving me the same message every time I clicked on it.*

When I held down ***[shift]*** *on startup to switch off my Extensions, I got the usual happy Mac and the message saying 'Extensions off' but all I ended up with was a white rectangular box with a flickering border. This disappears after a couple of minutes and I'm left with a plain white empty box, and the machine completely freezes.*

I can't get into my Mac to put At Ease *back into the System Folder, and I can't shut it down properly. Have I further damaged my Mac just by shutting off the power?*
Dr N J Tucker
Southport, Merseyside

A You have probably done no permanent damage by turning off your Mac without doing a proper Shut Down, although it is best

stereo samples, it also supports the MIDI sample dump standard (SDS) so sounds from a extensive range of samplers can be imported, edited and then exported. You can even save samples as SND resource files (your Mac's beeps and quacks are SND resource files, by the way) and play them back from the Desktop when you double-click them. *Sound Designer 2* costs £840.13 and Digidesign can be contacted on 081 875 9977.

If you just want to have a longer sampling time, then the shareware *SoundMachine* is a considerably cheaper alternative. It can record for hours depending on the amount of hard disk space you can spare. Your PowerBook could become the world's largest bugging device!

If you drag MOD files on to *SoundMachine* you can hear the individual samples used in the song. Initially you get the digital grunge of the song data followed by the samples. If they don't sound particularly good then try changing the playback format – 2's **compliment** seems to work well.

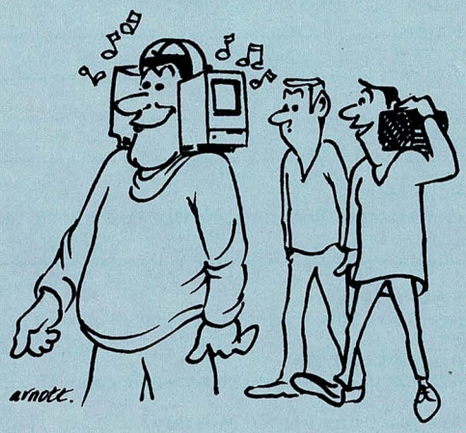
If you want to get these recordings into Apple's Sound Manager then *SoundApp* is a shareware program that has a number of useful features for manipulating sound files from a variety of formats. Its drag-and-drop approach will also convert the chosen file to a SND resource file if you hold down **[shift]** at the same time. Even MOD files can be converted. You can find *SoundMachine*, *SoundApp* and *SoundTrecker* on this month's MACFORMAT cover CD-ROM. *BD*

Sound Edit Pro won't go!

MUSIC

Q *Owing to the digital signal processor (DSP) on AV Macs, I find that* Sound Edit Pro *won't run on my Centris 660AV. Can the Centris be made to treat the DSP as an Apple Sound Chip or is there another application that you can recommend to resolve this problem?*
Eoin O'Sullivan
Derry, Northern Ireland

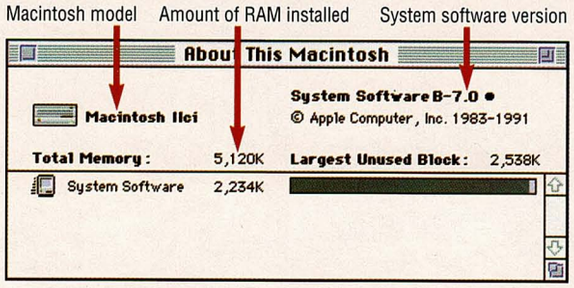
A If all you want to do is run *Sound Edit Pro* then contact Computers Unlimited to get the update, version 1.05, which will work. It costs around £15. But if you want to take full advantage of your Mac's 16-bit sound, you can upgrade to *Sound Edit 16* for £95. If you're interested in buying *Sound Edit 16* and its multi-track recording and numerous file format compatibility, it will cost £410. See our music feature on page 99 for more details on *Sound Edit Pro*. Computers Unlimited can be contacted on 081 200 8282. *BD*



'Apparently they're Mac-Sony clones.'

HOW MUCH RAM HAVE YOU GOT?

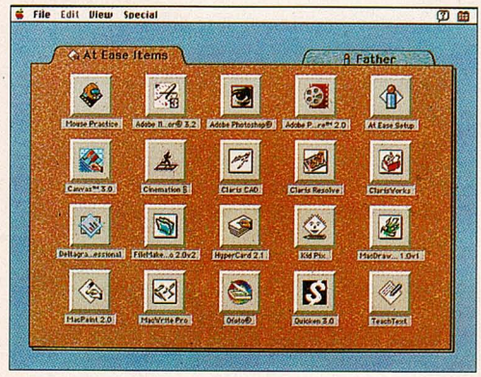
Obvious, but true: even the same models of Mac can have different amounts of memory or run different System software. To solve your problem, first we need to know all about your setup; find out here. Ensure you are in the Finder, point to the **Apple** menu and go to the first item, **About This Macintosh**, then release the mouse button and all will be revealed.



to avoid it if at all possible.

Error type 41 means the Mac can't load the Finder, probably because it has been corrupted somehow. The simplest method may be to re-install the Finder or System 7 from your System disks. This won't result in you losing any data or files, so don't worry.

Alternatively, find your original System disks. Turn on your Mac, and put the disk labelled Disk Tools into the floppy drive. Your Mac should now boot up from the floppy. Now find the System Folder on your hard disk, and throw the file named Finder in the Wastebasket. Replace it with the Finder file from the Disk Tools floppy. Make sure you switch *At Ease* off before you trash it or remove it. Now restart your Mac. And it should now work. *JC*



At Ease is designed to make using your Mac easier. Fine until *it's* the cause of your Mac crashing.

Hot metal

HARD DRIVES

Q Every so often, particularly when left for a couple of days, my Mac has a fit of the sulks and refuses to boot up. It will boot from the Disk Tools disk, and then if I immediately switch it off and then on, it will boot up. At other times it acts quite normally. Any suggestion?

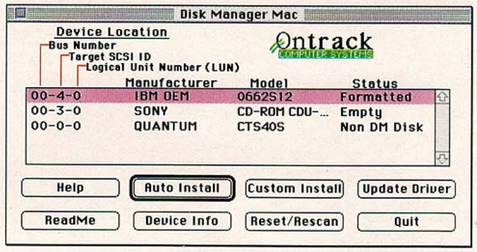
Dr M G Ebison
Isleworth, Middlesex

A This sounds like a thermal expansion problem. Nothing to do with wearing your underpants too tight, but rather an obscure disk problem. Hard drives consist of a number of metal platters that are larger versions of the disks that you find in floppies. When they are spun round at high speeds they start to warm up and expand. Although this is usually only a tiny amount, and it generally causes no problems, some problems can occur if the hard drive was formatted when it was very warm – which is possible if the machine had been running for some time.

In this case, when the disk platters cool down and contract, the tracks recorded on the platters may not be in the correct place under the drive's read/write heads. This can cause read errors, particularly at startup as your Mac will tend to be cooler. As the machine warms up, so will the hard drive, and the platters may expand enough for the tracks to be readable.

The only sure way to fix a problem like this is to re-format the hard disk. Make a backup, and wait until the machine is at its normal running temperature (not straight after booting up, or after it's been on all day), and reformat your hard drive. Then re-install the System and all the software.

It is always a good idea to stop your hard drive from becoming too hot by ensuring good ventilation around the drive. *JC*



To reformat your hard disk you can use *Apple HD SC Setup* on the Disk Tools floppy or a commercial program such as *Disk Manager Mac* (see the review in MACFORMAT 18).

MACANSWERS

If you send in a question for the MACFORMAT experts to solve, please fill in and include this form (or a copy of it). And please make sure that you include all the relevant details – version numbers of software and so on – so that we have the best chance of helping you. Send your form and question to:
Mac Answers, MACFORMAT, 30 Monmouth Street, Bath BA1 2BW. Or fax it to us on 0225 446019.

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Address .....

.....

.....

Your Mac
(For example, Performa 200, IIfx, PowerBook 145):

.....

System version
(see About this Macintosh screenshot above): .....

Amount of RAM
(see About this Macintosh screenshot above): .....

Are you using Virtual Memory? .....**YES/NO**
(This is accessed from the Memory Control Panel under System 7)

Do you have 32-bit addressing turned on? .....**YES/NO**
(This is accessed from the Memory Control Panel under System 7)

Details of any relevant hardware which could help us to answer your question:

.....

.....

Now, use this space to describe your problem or question. Include as much relevant information as possible. Please continue on a separate sheet if necessary.

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Save as you work

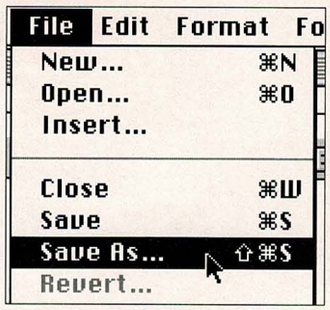
Don't wait until disaster strikes. Derek Smith gives you the complete guide to saving...

Saving and opening files is easy on the Mac. All Mac programs use the same screens, called dialogue boxes. For the examples below we used *ClarisWorks 2.0*, but they apply for every other available Mac program too.

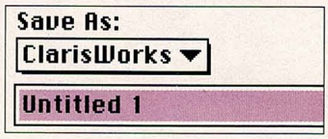
Before we start, it's worth noting that when you're saving a file, you can have one or more folders within another folder, creating a kind of pyramid structure.

SAVING A FILE

1 You've done some work and want to save it. Click and hold down the mouse button on the **File** menu. You'll see two similar sounding options: **Save** and **Save As**. If you haven't previously saved your document, drag the cursor down over *either* **Save As** or **Save** and release the mouse button...



2 A dialogue box will appear. This *always* happens when you select **Save As**. The box enables you to tell the computer two important pieces of information, which it needs in order to be able to save your file. First, your Mac wants to know what the document will be called (or 'saved as'). You can have any name up to 31 letters or characters – or both. You can have spaces, punctuation and foreign letters. Your document may be given a default name, such as 'Untitled'; if so, this

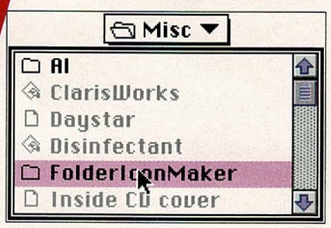


appears highlighted (as you can see in the screen-shot above). Choose a name for your file and type it in this box. The second thing your Mac needs to know is in which folder you want to save your file, and on which disk – hard disk or floppy, for example. (See Step 3.)

3 The next step is to tell the program where you want to save the file. If you just click on the **Save** button (bottom-right of the dialogue box) then the file will be saved in the current folder; its name (Misc in the screen-shot) appears in the window at the top of the dialogue box.

If you've got a folder *within* this folder and you'd rather save the file there, double-click on the desired folder (for example, FolderIconMaker in the screen-shot). Its name will appear in the window at the top of the dialogue box – and then you can just click **Save**.

If you don't want to save your file in

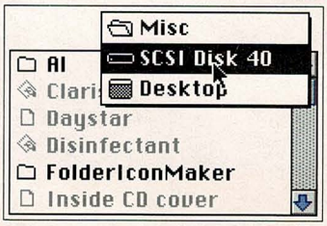


the current folder (or anywhere within it), or if you want to save your file to another disk, then you will need to go on to the next step.

4 Move the cursor on to the current folder name and *click and hold down* the mouse button. Drag the cursor down the list that appears and release the mouse button when it's on the folder you want.

The name of the chosen folder will appear at the top of the window, which is at the top of the dialogue box. Click **Save** to save your file in that folder. If you've got folders Russian-dolled inside one another, you'll need to keep double-clicking on the folder names (as explained in step 3) until the one you want appears in the window.

Alternatively, you can click on the **Desktop** button (to the right of the dialogue box). Clicking on the **Save** button enables you to save directly to Desktop. (If you have an alternative disk to save to, it will appear in the folder selection window.)



5 Okay, you've saved your file. But if you want to continue working on it you'll need to save regularly to prevent any disasters. To do this you should select **Save** from the **File** menu every five minutes or so. Nothing appears to happen, but the original file is deleted from your hard disk and the newer version saved in its place. This means that if your Mac crashes, you won't lose too much of your work and you won't have to start it all over again.

6 You'll always use **Save As** when you first save (by default if you hit **Save** instead), but you can also use **Save As** to create a second version of a file. For instance, if you're working on version one of a letter and want to save version two – but would like to keep the original for reference – select **Save As** and give the file a new name (and possibly a different location), and save it. Both versions will now be saved on your Mac.

OPENING A FILE

Once you've saved a file, you'll probably want to open it again at some point. There are two ways of doing this. The first is to find the file and double-click on its icon. If the application it was created in isn't open, then it'll open along with your file.

If you're already using the application and want to open a file, then you can use another method. Select **Open** from the application's **File** menu. A dialogue box opens. Looks familiar? It is. And the techniques that apply to saving files also apply to opening them. You can open a folder by double-clicking on its icon. To move to another folder, press and hold down the mouse button on the folder name in the window at the top of the dialogue box. Once you've found the file, either double-click on it, or click once on its name and then on the Open button.

HINTS AND TIPS

- When the **Save** or **Open** dialogue box is on screen, press **[tab]** to alternate quickly between highlighting the folder selection box and the current document name, which is the box beneath it.
- When the folder selection box is highlighted you can select any folder saved within it by pressing the first letter of its name.
- Pressing **[command] D** in most dialogue boxes has the same effect as clicking on the **Desktop** button.
- Pressing **[command] [full stop]** has the same effect as clicking on the **Cancel button**.
- Pressing **[return]** or **[enter]** has the same effect as clicking on the button with the heavy outline – the **Save** button, for example.
- To go back one folder level, click on the volume name. This also has the effect of highlighting the folder you just came from, rather than the first one.

- Two files in the same folder cannot have the same name, but you can give two files the same name if they are in different folders. Obviously it is risky to do this, though – you must be very careful to keep track of which is which!

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Can't be done!

Can't open a file, copy it, change its name or save it? Alex Summersby and Stuart McHugh suggest what to do when everyday functions won't work...

There's an old saying I just made up, and it goes like this: a Macintosh makes everything easy to do, except when it just doesn't want to play, and then it's impossible. Everyday tasks such as opening a file, saving a document in your word processor, deleting data and so on – when everything goes well – are all but completely transparent to you. (By comparison, just try renaming a file using DOS, or even a pale Finder imitation like the Atari ST's TOS.)

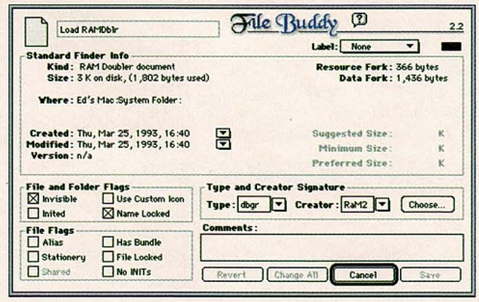
The flip side to all this ease of use is that when some procedure goes wrong, it isn't immediately obvious where the problem lies. Over the last few issues, we've looked at common Mac problems, from bombs and startup glitches to hardware and SCSI faults (MACFORMAT 18 to 20 – if you missed any of those issues, rush to page 102). This month, let's see what you can do when the simplest of functions won't work for you... Sometimes you'll get an alert message advising you what to do, but what if you don't? (Some possible error codes you might get in alert boxes are mentioned, but see the 'Wrong Number' box below for an important note about these.)

1. Can't empty wastebasket

(a) File in use? (Error –49) Close it!
(b) File or folder being shared? Turn off System 7's File Sharing function using the Sharing Setup Control Panel.
(c) File Locked? (Error –45) Unlock it – highlight the suspect file, then select **Get Info** in the **File** menu. (An alternative is a little shareware program called *LockIt!* – it's on this month's MACFORMAT cover disk, along with another called *UnlockFolder*. Unneeded resources in particular, such as PPDs (printer configurations) for printers you don't have, can be tiresome to delete in bulk – Get Info, unlock, close window for every file...)
(d) Invisible file in folder? Use a utility that can view and delete invisible files, such as *File Buddy* (yours on this month's CD-ROM).
(e) File or disk information damaged? If a file is damaged the only way to dispose of it is often to repair your hard disk, using the utilities on the Disk Tools disk that came with your System or a package such as *MacTools* or *Norton Utilities*. Rebuilding the Desktop can help (hold down **[command]** and **[option]** as the Mac starts up), but erasing the disk is perhaps the only sure way... (Try *UnlockFolder* as well though – it can't hurt.)

2. Can't copy file

(a) Destination disk full? (Error –34) Make some space or find another disk!
(b) File damaged? (Again? – See 1(e) above) You're snookered – you probably can't even read it, which may be why you're trying to copy it in the first place?
(c) Source disk damaged? ('Can't read' error message, –39) Your only hope is a file recovery utility in a package such as *MacTools* or *Norton Utilities* (both reviewed in MACFORMAT 18).
(d) Destination disk damaged? ('Can't write' error message, –36, maybe – an I/O error) Try a disk repair utility or find another destination, even if you have to use a spare floppy disk.
(e) File is copy protected? This sounds paradoxical, but modern copy protection tends to allow a disk to *apparently* be copied, but then the program can't run from the copy (it may ask for a master disk or something of that sort – usually there is some kind of message). Old protected software simply set the 'Bozo bit' that basically said 'Can't copy', but this was too easy to alter using *ResEdit*.

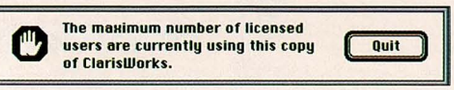


If you've 'trashed' a folder but now find you can't actually empty the Wastebasket, it may be that there's an invisible or protected file or folder within it. *File Buddy* can help find it.

(f) Finder or System damaged? If the Mac just freezes during copying, this is a possibility. Try reinstalling the Finder, or the System software if that doesn't do the trick.

3. Can't open application

(a) Is application already open? Double-check menus – are you in the Finder or already in the application (but with no document open)? Is the application icon greyed out?
(b) If the icon is not greyed, try highlighting the application file (single-click on it) and selecting **Open** from the **File** menu. If this works, it



If you can't launch an application, it may be that a copy with the same serial number is already open on another machine.

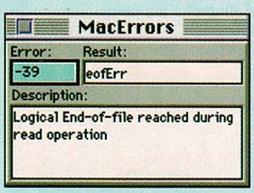
WRONG NUMBER

MacErrors, UnlockFolder, LockIt & UnmountIt are all on this month's cover disk

Before System 7, you often got error messages with a code number intended to tell you what had gone wrong. Nowadays you're more likely to get a more intelligible text message (like 'There is not enough room on this disk to copy this file'). However, we've included likely error codes here because, although the Finder won't usually display them in its own error alerts, an application program just might. It will receive these codes from the System and, if it's well written, should, for instance, translate a –45 into a 'file is locked' message to display in an alert box. Mind you, the more obscure the error code (and there are hundreds of possibilities) the less likely it is to be programmed to 'translate' it.

You may see –39 ('end-of-file marker reached during read operation' – possibly a corrupted file) when copying or installing, and likewise 25, though this 'out-of-memory' message will often be accompanied by a bomb. Error –34 will crop up for a 'disk full' error, usually with a message (any good program should spot this). Unfortunately, you'll seldom see the likes of error –60 ('bad master directory block') from an application – that is, error messages that identify a serious disk-level or Finder-level problem. You're more likely to see 1–15 – codes that relate to application-level errors – and more likely with a bomb.

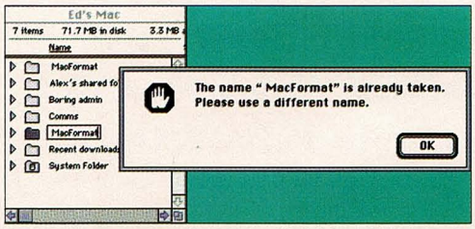
So while these are quite interesting, they're pretty unlikely to be of much practical help, except for 2 ('address error'), 5 ('check trap error'), –34 ('disk full'), –36 ('I/O error'), –39 ('end-of-file reached') and –43 ('file or folder not found'). However, even these aren't guaranteed – as we explained in MACFORMAT 18, when something goes wrong in a big way, the System itself can be wrong about the cause and error messages can be completely spurious. Best not to take their word and just test for the likely causes methodically.



If you're dying to know what those error codes mean, there are handy little programs like *Mac Errors* that can tell you. It's yours on this issue's cover disk. Enjoy!

suggests you might have a problem with your mouse button.

(c) Otherwise, you should get an alert message explaining the cause. Not enough memory? Assign more – highlight the application (not its alias), select **Get Info** from the **File** menu (or press [**command**] **I**) and increase the 'Current Size' allocation. Avoid having other applications running at the same time.



You can't have two files or folders with the same name within the same folder – and an alert will tell you so if you try.

(d) Application damaged? If you do succeed in opening it at all, it will probably crash anyway – reinstall it fresh from the original disks.

(e) Same serial number already in use or authorised number of users exceeded? Someone else on your network is using a copy of the same application. Buy a licence!

(f) No message, but application crashes during loading? Could be an Extensions (INIT) conflict – try restarting without Extensions (that is, hold down the [**shift**] key as you restart) and then try again. If the application now loads, suspect an INIT conflict – see MACFORMAT 18 for suggested action.

4. Can't click open file

(a) Double-clicking launches the file's creator application if it's not already open, so see 3 above for suggestions.

(b) File damaged? You should get an error message saying so – failing that, you'll have a crash.

(c) No application to launch file with? You should get an alert, or possibly even another suggested application to try opening it with, but this isn't certain. Try opening an application first and using its **Open** command, or dragging the file icon on to an application icon – if the application can open it, the application icon will often be highlighted as you do so.

(d) Try rebuilding the Desktop – especially if the file has only the generic file icon, not a custom icon, it could have 'forgotten' what application it belongs to...

5. Can't open file via menu

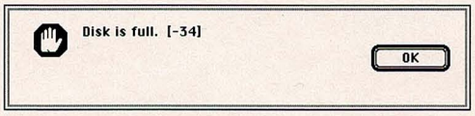
This should have explanatory error messages.

(a) Memory shortage? (Error 25) Assign more to application using **Get Info** in the Finder.

(b) File damaged? (Error –39, –43) Try the file recovery utilities in packages like *MacTools* and *Norton Utilities*. Did you have a backup? Failing that, you can only replace it...

(c) Wrong format? Save again from the creator application as another format. (If you are *in* the creator application, you're in trouble...)

(d) Was file created with a newer version of the application? Many applications are not 'backwards compatible' – you can't open files in older versions. It's a way of forcing you to buy an upgrade. Sorry.

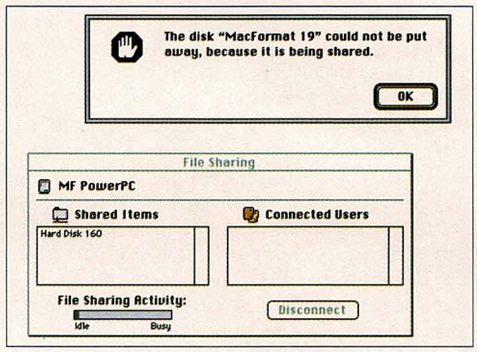


Error –34 means 'disk full'. Erm, as it says. It's at times like this that you wonder why they bother with error numbers.

6. Can't save file

(a) Disk space short? (Error –33) Go to the Finder and delete something to free some space. Use **Save As** to save to another disk – a floppy if necessary.

(b) Hard disk damaged? Run a repair program, or use **Save As** to save to another disk. If you *must* save to your hard disk, freeing up some space might enable your file to be saved to a different area.



The biggest flaw of file sharing: even if a volume isn't actually being shared, the System may *think* it is and give you gyp.

(c) File damaged? Try using **Save As**. If you don't choose a different name, the new file will completely over-write the old, which may solve the problem. If not, see 5(b) above.

7. Can't alter file name

(a) File locked? (Error –45) Unlock it using **Get Info** in Finder.

(b) File being shared? Switch off File Sharing.

(c) Protected file? You cannot change the names of some files and folders – the currently active System Folder, for instance, the Finder, and some others.

(d) Volume is read-only? You can't change any names on a read-only volume such as a CD-ROM or any copy protected disk.

(e) File open? (This depends on the application.) Close it or quit out of the application.

(f) File damaged? Replace it, recover it with a utilities package, etc.

(g) Desktop file or disk damaged? Rebuild Desktop. Repair or replace System.

(h) Name already exists, or exceeds 31 characters? Solutions obvious.

8. Can't alter folder name

(a) Protected folder? See 7(c).

(b) Folder being shared? See 7(b).

(c) Volume is read-only? See 7(d).

(d) Folder locked? A folder can only be locked by a *FolderBolt*-type utility (or 'locked' by a file sharing setting). Try *UnlockFolder* (it's on the cover disk).

(e) Desktop file or disk damaged? See 7(g).

(f) Could be caused by a bug with System 7.01. Another symptom of this is that the folders can't be deleted either – even rebuilding the Desktop doesn't work! So you really have to run a utilities package such as *MacTools* or *Norton*, or failing that, erase your hard disk.

(g) Name already exists, or exceeds 31 characters? Solutions obvious.

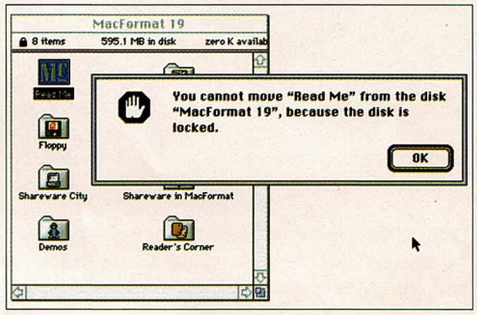
9. Can't alter disk name

(a) Volume being shared? See 7(b).

(b) Volume not 'yours'? If you're connected to a network, a volume is quite likely to be impossible to rename, unless you have the privileges to do so.

(c) Volume is read-only? See 7(d).

(d) System bug? (Error –46 possible) There was a problem occasionally seen with hard disks similar to that which affected folders – see 8(e). In normal circumstances you can't lock a hard disk, and thus make it impossible to rename, so unless a utility is at work, it may, again, be a System or Desktop problem. Here *UnlockFolder* can't usually help.



A locked or read-only volume, such as a CD-ROM, can't be modified in any way – no changing file or folder names, no moving them about, no deleting things... you get the idea.

(e) Name already exists, or exceeds 31 characters? Solutions still obvious.

(f) If you try to rename a ghosted floppy (which has been ejected by a key command) you will be able to do so, but you will be asked to reinsert it and the renaming will take effect when you do so.

10. Can't eject disk

(a) Files open? Close them!

(b) Is it the startup disk? You'll get a message.

(c) Disk is being shared? Turn Sharing off (again, the message will make sense). Annoyingly, you often get this message when the volume is not actually being shared (for instance where you have file sharing turned on and you have inserted a CD-ROM). Try using *UnmountIt* – it's on this issue's cover disk. This often does the trick and saves you having to throw everyone on your network off, giving them alert messages and grey hairs...

11. Other problems

These include: can't change View, can't use Labels, or other generally weird behaviour. Trashing the Finder Preferences file (which you'll find in the Preferences folder inside your System Folder) is, as ever, worth a shot, but ultimately you'll probably need to reinstall your System. *Alex Summersby & Stuart McHugh*

The third dimension

3D animation is becoming a Desktop reality now that art packages are more sophisticated and Macs are getting more powerful. In a new series, Brian Larkman shows you how to get started.

Realistic images *are* possible on the Mac, as you'll have found if you've been following our recent Illustration and Techniques tutorials. But there's no substitute for creating The Real Thing – and the current batch of 3D illustration software is as close as you can get on the Mac at the moment. Programs like *RayDream Designer*, *Alias Sketch* and *InfiniD* are designed to help you create your own realistic or imaginary worlds with powerful, easy-to-use tools.

If you think 3D is out of your league – too difficult, too expensive, too time consuming – think again. Once you've developed a few basic skills, 3D illustration isn't that hard. And it can be much more exciting and rewarding than playing games. It's also an excellent supplement to the 2D design skills you've been developing over the past few months. Objects and scenes that might take you days to paint with *Dabbler* or *Studio/8* can be built and rendered in hours or minutes, then processed and blended into your paintings, or even choreographed into animated sequences.

Over the next few months we'll be describing the whole process of creating your own 3D worlds step by step, using simple tutorials, and comparing the various characteristics of many of the packages available. To help you we'll be providing fully useable demo versions of several of the best packages on the MACFORMAT CD-ROM, and as much shareware 3D software as we can cram on to the disk.

The process of creating 3D illustration is different from 2D, where you create an image in one basic process, integrating visual effects such as colour, transparency, shading etc as you go along. With 3D, everything has to be broken down into a series of tasks, similar to those used when fabricating a real object. Depending on the program and the object under construction, some of these processes are more or less integrated. For this introduction we've broken down the whole system into its constituent parts. These are described in free-standing boxes that you can read in any order – but read 'What is 3D?' first.

WHAT IS 3D?

In very basic terms, a line has one dimension, its length (in theory anyway – a *real* line has some thickness); a flat poster has two dimensions, its width and height; and a monitor has three dimensions, its width, height and depth. It's simple for a Mac to work in two dimensions; the screen has a width and height just like a sheet of paper, so drawing and painting can be easily emulated on screen with the help of a good art package. To work in the third dimension the Mac must control processes that *seem* to operate into the depth of the monitor. Fortunately, unlike paper, a Mac can be programmed to do exactly that in a variety ways. (Some of them are described in the 'Interface' box on page 95.)

Moving about in the third dimension is just the first step to creating realistic 3D images. Most of the techniques are very similar to those that are used in the real world. To shape an object you need lots of powerful and versatile modelling tools and – for it to look realistic – a way to apply surface textures and other material characteristics such as reflectiveness and transparency. To create a scene, groups of objects must be placed into a logical 'world' with its own environment, consisting of a backdrop or interior space, a ground plane, atmosphere and lighting.

If anything needs to be animated – object, camera, light source, texture – motion paths need to be drawn and allocated, and key-frames set. Once everything is set up, the scene must be rendered – a process similar to taking a photograph. It's first rendered as a low resolution test snapshot, then at high resolution. Some programs now enable you to do a certain amount of post-production image processing using *Photoshop* plug-in filters.

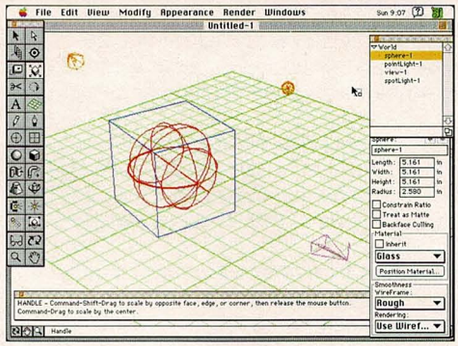
3D programs will render your images in different ways: as wireframes, with hidden line removal for speed (left); as simple faceted objects to show shading and form (centre); and with full photo-realistic 'ray-tracing' for final display versions (right).

INTERFACE

Creating a realistic 3D world inside a Mac requires a studio/workshop almost as versatile, powerful and well equipped as that of a real model-maker and photographer. So setting up an interface to enable the user to manipulate all of the necessary tools with a mouse would seem to be impossible...

Over the years, though, a range of techniques has been devised. And now that really powerful Macintoshes have become more affordable, these techniques work well. The best interfaces use a natural and easy-to-operate perspective-isometric view that enables the object to be pushed and pulled, rotated and scaled in any direction, just like in the real world.

For more accurate work, the traditional tri-view of front elevation, end elevation and plan can usually be used. If the model or scene is very complex, or the computer not very powerful, objects can be displayed in a wireframe form or even as 'bounding boxes'. But normally some sort of shaded solid modelling is used.

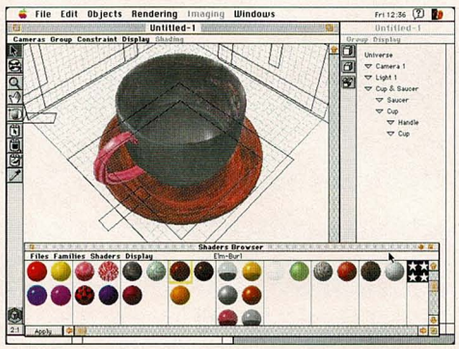


This *Sketch 2.0* interface is typical, showing a perspective view, a ground plane grid, modelling, transformation and navigation tool icons, a hierarchical 'assembly' window, an object info window and a 'help' box.

Texture

Once the raw material of a design has been formed into a shape it must be given its physical properties like colour, reflectiveness, transparency, surface texture and so forth. In the early days of 3D rendering, each object had to have each of these properties applied individually, but now most programs provide a list of 'real world' materials that can be attached to a selected object with the click of a mouse button.

Surface texture can be modified in an astonishing variety of ways, by applying either a bitmap (that is, a 'picture' of wood, concrete, brick, whatever it may be), called Surface Mapping, or a mathematical function, called a Procedural Texture. Either way, textures can be projected on to the object, wrapped around it, or penetrate right through it. The texture can apply a coloured pattern, or can define the transparency, reflectiveness or height of bumps on the surface, depending on its colour or tone. Varying the size of a texture pattern can produce very convincing perspective effects.



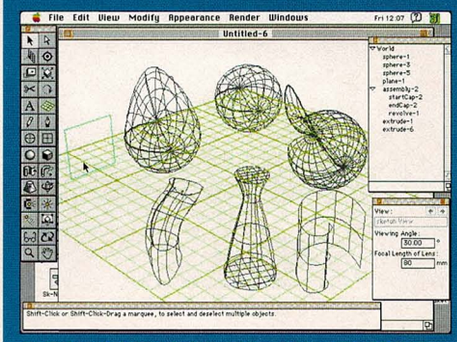
RayDream Designer 3.0 uses a common method to display the available materials using texture mapped spherical samples. These can be applied to any object at the click of a button, or by dragging and dropping on to an object.

MODELLING

To create an object you need to model a material. The computer's 'material' is really a series of three dimensional line graphs that, in their simplest form, are displayed as if objects were made of wire frames. Basic 3D programs use a wireframe of straight lines to define triangular facets that are grouped to make angular geometrical objects.

More powerful systems use curves similar to the familiar Beziers of 2D illustration programs like *Illustrator* or *FreeHand*. Smooth objects can be created by linking these curves to define 'patches', like the body panels of a car. Most programs provide simple shapes – cube, sphere, tube etc – that can joined to make basic objects. These shapes can usually be edited to make more detailed objects, though this process can be laborious when applied to faceted models. Curved or patch-based objects can be edited easily because when you grab a control point and move it it deforms the model smoothly. This allows objects to be manipulated almost like clay.

Most programs also provide automatic object-making tools, such as: a lathe to rotate a profile into a turned shape like a wine glass; extrusion to push a profile along a path like a curly-cable; skin to cover a series of irregular profiles like the hull of a boat; and many others.

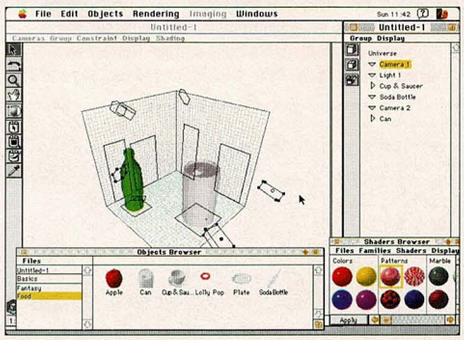


Alias Sketch 2.0 uses the same window for modelling and scene building. Here a p rimitive sphere has been distorted into several new shapes using the 'putty' tool (the three back objects). In the front you can see how extruded, lathed, and swept objects are modelled.

SCENE BUILDING

The heart of most 3D systems is the scene building area. In effect, it operates like a film or stage set. Objects are loaded, oriented and scaled relative to each other; scenery is assembled, backdrops positioned, smoke, mist and other atmospheric effects applied; lights are coloured and directed, cameras adjusted and motion paths drawn. Some users prefer to use the same screen environment to model objects and set scenes. This has the advantage that related objects can be constructed next to each other. But the disadvantage is that the screen can become very crowded, so sometimes it is easier to construct the objects separately and add them to the scene when they have been finished.

It is at this point that the quality of an interface is tested most severely. Ideally, both tri-view and perspective-isometric views are required to position objects correctly. The interface should enable you to switch between them quickly and easily. The most intuitive systems also provide camera and light 'objects' that can be moved and oriented like the real thing, making it much easier to set up 'camera angles' and lighting effects (but of course you have to wait for the program to calculate where the shadows etc fall). One particularly intuitive art package that enables you to set up these objects is *Ray Designer 3.0*. In most projects, this is by far the most time-consuming part of the work – unless you're animating...



Once objects have been modelled and textured they can be assembled into a scene with the required lights and cameras. *Ray Dream Designer 3.0* displays cameras and lights as objects so that they can be placed easily.

JARGON BUSTERS

Anti-aliasing and Oversampling: all computer painted or rendered images are actually composed of a fine patchwork of tiny squares called pixels. A diagonal line or edge can therefore look stepped or jagged. Removing this stepped effect is called anti-aliasing. There are two main methods: Over Sampling and Area Sampling.

With Area Sampling the area around the step is examined, and the colours of pixels at the step are changed to an average tone to disguise it. This can be carried out after rendering but it causes edges to look blurred. Oversampling is more accurate. You render detailed areas of the scene at a much higher resolution than you need. When the image is displayed at the chosen resolution, imperfections can be averaged out accurately because there is more data to work from.

Bezier curves: smoothly curving lines whose degree of bending is controlled by handles at either end. Exactly the same as the curve tools in *FreeHand* and *Illustrator*.

Bounding box: a complex object may be too large to select and move in real time, so a rectangular 3D wireframe box, just large enough to contain the object, is constructed around it. This box is then transformed as required in real time, then the object is redrawn in the new position.

Extrusion: one of the simplest ways of making a 3D object. Extrusion is what happens to toothpaste when you squeeze the tube. In most 3D systems you first design the shape of the 'hole' as a 2D profile or outline, then push that shape out in one direction.

Ray tracing: each light ray is traced from its source, through the model to the camera. The properties of the objects it bounces off or passes through are noted, and every pixel is then coloured accordingly.

Interactive software

Most 3D illustration packages provide a wide range of tools designed to do a reasonable job in almost any situation. In addition, a range of packages has been developed that are designed for more specific tasks. The construction of landscapes requires a particular set of tools. One program, *KPT Bryce*, has cornered the market here with a stunning program that has an especially interactive interface (see MACFORMAT 20). Trees require specific fractal based modelling techniques. Several programs provide them – for instance, *Tree3D* produces some excellent simulations.

KPT Bryce is a specialised 3D landscape design program, but it shows the direction that interface design is heading – towards much more interactivity. The animated Fog, Haze, Shadows, Clouds and Frequency tools all change smoothly as you vary their parameters.

Most 3D programs enable you to model and animate text and logos, but dedicated systems are usually much better at the job. Specular's *LogoMotion*, for example, is very easy to learn as it doesn't have to provide all the sophisticated effects of a full-blown modelling and animation system.

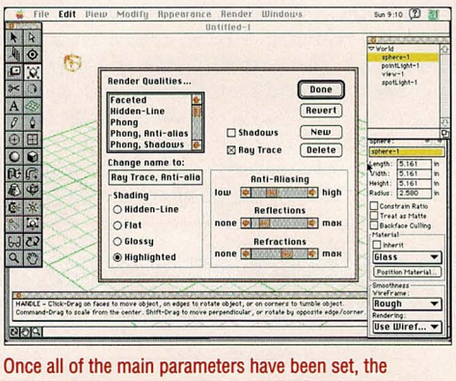
Exotic textures are also difficult to work with and are equally well-served by dedicated systems. If you want to invent your own textures, several programs will generate patterns for mapping on to objects. The most popular of these is probably *Kai's Power Tools*, a *Photoshop* compatible 'plug-in'. Specular's *TextureScape* also provides an almost infinite variety of surfaces.

ANIMATION

Getting motion to look realistic is now a major artform. Once animation just involved drawing a motion path and attaching an object, or morphing one shape into another over time. With the detailed analysis of realistic motion and the arrival of powerful computers, a huge range of animation effects has become available on the Desktop.

It's now possible to give groups of objects a life of their own using Particle systems; to make moving objects be affected by gravity, momentum, friction and collision detection; to move a finger to a button and have the whole arm and body follow along automatically with Inverse Kinematics; in fact, to reproduce virtually any natural movement.

StrataStudioPro uses time-line display to control animation. If you've ever used a sequencer to arrange music or a video editing package, you'll be right at home with it.



Once all of the main parameters have been set, the rendering parameters are quite simple. Render quality varies considerably, from wire frames to true ray tracing.

RENDERING

Turning a detailed model into a photo-realistic image is frankly one of the miracles of computing. Rendering involves a trade-off between speed and quality, so most programs offer different methods for quick snapshots, detailed tests and final renders.

The fastest method just shades the model (and its facets). Adding textures, reflections, shadows and transparency progressively slows down the render. The most infamous technique, ray tracing, can take weeks to render a single image. It is very accurate, however, capturing every shadow, reflection and refractive distortion in the model.

WHERE TO GET IT?

- *Alias Sketch 2.0* is £399 from Gomark 0171 731 7930
- *RayDream Designer 3.0* is ££365 from from Principal Distribution 01706 831831
- *StrataVision3D* is £300 from Gomark 0171 731 7930
- *StrataStudio* 2.5 is £725 from Gomark 0171 731 7930
- *KPT Bryce* is £199 from from Principal Distribution 01706 831831
- *LogoMotion* is £115 from Gomark 0171 731 7930
- *Tree3D* is £370 from Gomark 0171 731 7930
- *TextureScape* is £132 from Gomark 0171 731 7930
- *Kai's Power Tools 2.0* is £149 from Principal Distribution 01706 831831

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Power Mac 8100/110 16/2000 CD	3885	Power Mac 6100/60 8/250 & SW	1611
Power Mac 6100/60 8/250 CD & SW	1742	Power Mac 7100/66 8/350DL & SW	1810
Power Mac 7100/66 8/350 & SW	2124	Power Mac 7100/66 8/500 CD & SW	2361
Power Mac 7100/66 8/500 AV CD & SW	2482	Power Mac 8100/80 8/500 & SW	2940
Power Mac 8100/80 16/500 CD & SW	3150	Power Mac 8100/80 16/1000 CD & SW	3465
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Power Mac 8100/80 8/500	2993	3369	4094
Power Mac 8100/80 16/500 CD	3177	3527	4251
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	Group 3 99	Group 4 135		Group 3 165	Group 4 220		

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Performa 630 4/250 & keyboard	782	Performa 630 8/250 CD & keyboard	982
Performa 630 8/250 CD Plus & keyboard	1024	Quadra 630 4/250 & keyboard	840

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Key: EM = Express Modem, GS = Greyscale, PM = Passive Matrix, Col = Colours, AM = Active Matrix, Thou = Thousands

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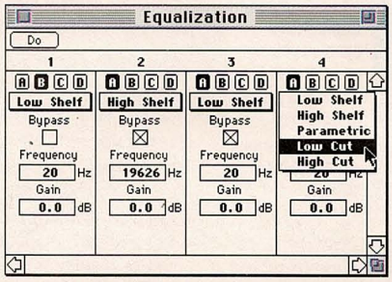
Hard disk music

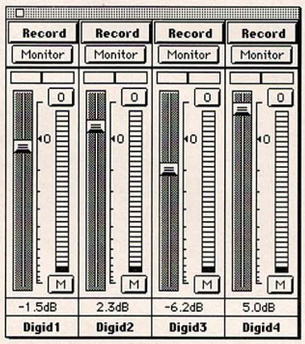
Record music direct to your hard disk digitally – and even synchronise sound with your *QuickTime* movies. Ian Waugh shows you how it's done...

For over ten years musicians have had the power of MIDI to help them create and arrange instrumental music. Now direct-to-disk (DTD) recording is revolutionising the way they record audio material such as vocals and acoustic instruments.

DTD recording is the process of sampling an audio signal, converting it into digital data and saving the result on to a hard disk. The process is similar to that used in commercial samplers and the Mac's own sound system. On playback, the data's read directly from the disk and converted back into audio data on the fly.



Cubase Audio has an Equalisation window that enables you to apply five different types of EQ to the digital audio recording.



The Monitors window in *Cubase Audio* enables you to check the levels of the audio data on all four channels and adjust them if necessary.

In some ways DTD recording can be regarded as the computer equivalent of the tape-based portastudio. But DTD can also produce CD-quality recordings and has amazingly powerful editing facilities.

Unlike tape, DTD recording does not store music in a linear fashion. It's stored like any other kind of computer data so any part of the recording can be read from the disk instantly. Most software enables you to set up cue lists or regions that simply point to smaller sections of the on-disk recording. This means you can cut up a long recording into several smaller sections and then even play back a number of these smaller sections at the same time.

As the audio is in the digital domain, tracks can be mixed without loss of quality. Some software also includes processing functions that enable you to create fade ins and outs, add echo, change the pitch and so on.

Most of the systems that we're looking at here are MIDI sequencers with DTD facilities. The integration of the two is ideal for musicians, enabling them to arrange MIDI and audio tracks side by side.

A recent trend in DTD sequencers is support for *QuickTime* movies – good news if you want to get started in multimedia.

Cubase Audio

Steinberg's *Cubase* is one of the industry-standard sequencers, and the inclusion of DTD is a welcome addition.

Audio patterns appear in the Arrange window just like MIDI patterns so it's easy to combine the two. You can also move, cut, copy and paste them like MIDI patterns. Files on disk can be divided into smaller segments that can be dragged to the Arrange page.

There's an equalisation window with several adjustable parameters and you can edit the data on disk directly. A Match Tempo function enables you to match *Cubase*'s tempo to recorded material. Time Stretch and Harmonise functions are available through the use of *Time Bandit*, an optional addition that costs £456.

You can open a *QuickTime* movie and offset its start time against that of the sequencer, enabling you to write music to accompany it. However, you can't resize it and there are no *QuickTime* controls.

Harman Audio is currently running a special promotion pack called The Compilation, which includes *Cubase Audio* and an Audio Media II card. At £1,499 it's quite a bargain.

- **Price: £799.**
- **Requires: any Mac that the requisite Digidesign card can be plugged into, 8Mb of RAM and System 7 or later.**
- **For more details contact Harman Audio on 0181 207 5050.**

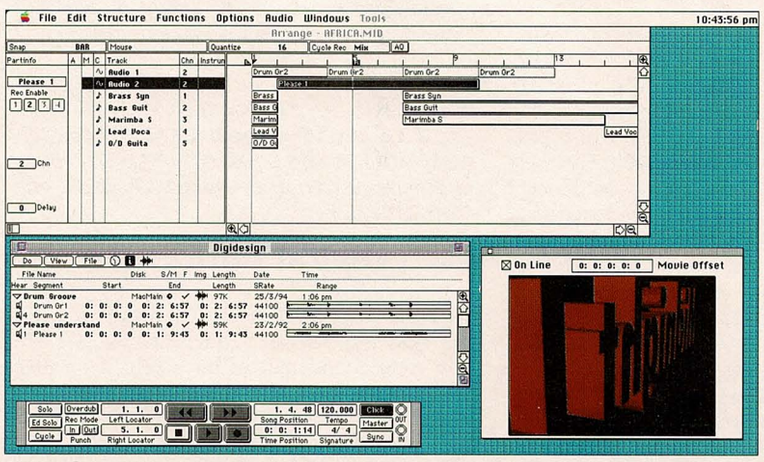
Notator Logic Audio

Emagic's *Logic* is another industry-standard sequencer. The integration of MIDI and audio tracks in the Arrange page is handled much as it is in *Cubase Audio*.

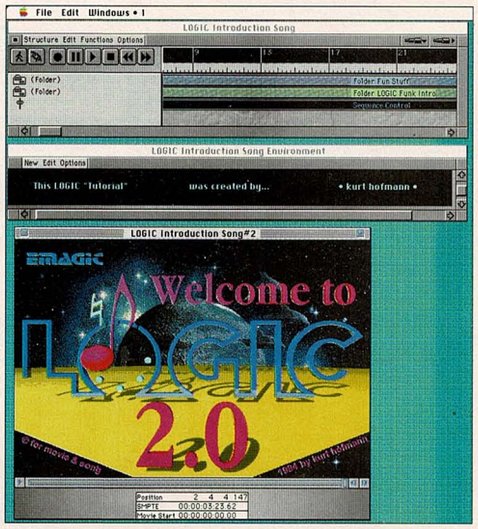
The Audio window shows the recordings on disk and the regions you've divided them into. To use a region in a song you simply drag it to the Arrange page.

Editing is non-destructive but you can edit the files on disk through the Sample Edit window, which is destructive. Operations include Normalise, which boosts the signal to its loudest possible level; Change Gain, which lets you alter the level by a specified amount; Fade In and Out; Silence; Reverse; and Trim.

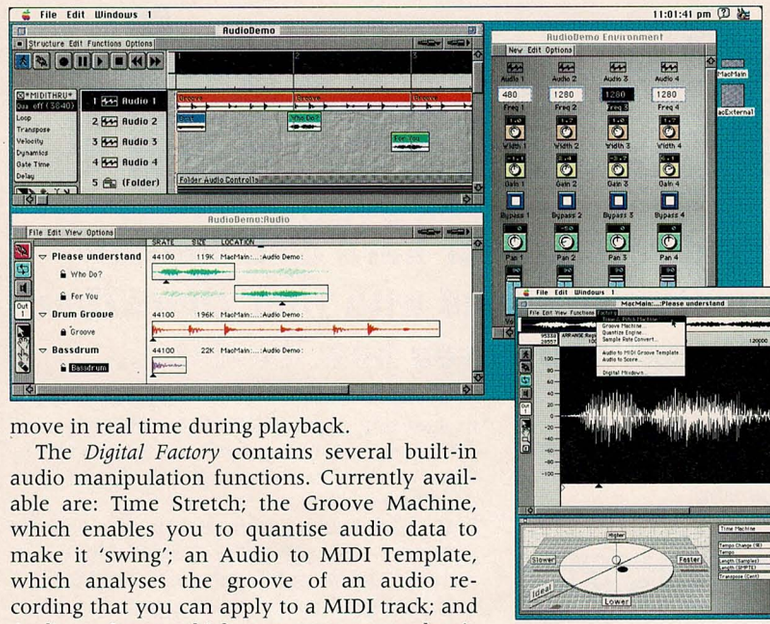
Logic's sophisticated Environment page enables you to create an Audio Mixer with EQ, pan and volume controls, and the controls



Cubase Audio combines digital audio and MIDI tracks on the Arrange page and supports *QuickTime* movies. The Pool window in the centre displays the audio files.

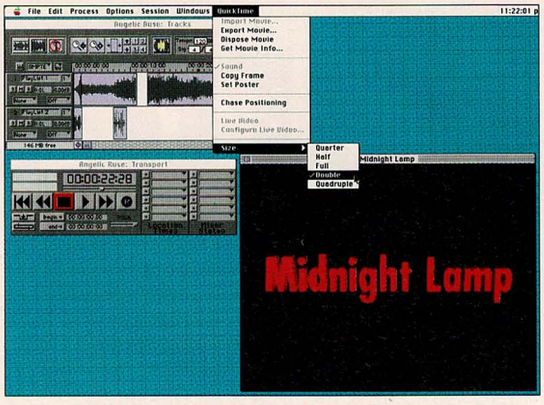


Logic Audio has excellent support for *QuickTime* movies. They can be resized and retain their *QuickTime* controls for ease of cueing.



Notator Logic Audio integrates digital audio with MIDI patterns. The Environment page can be configured as an audio mixer with EQ, pan and volume controls.

Logic Audio enables you to edit the disk files and has a range of on-board processing tools, including time stretch.



Deck 2 has support for *QuickTime* movies – you can resize the window and control playback from the transport controls.

move in real time during playback.

The *Digital Factory* contains several built-in audio manipulation functions. Currently available are: Time Stretch; the Groove Machine, which enables you to quantise audio data to make it 'swing'; an Audio to MIDI Template, which analyses the groove of an audio recording that you can apply to a MIDI track; and Audio to Score, which converts a monophonic audio recording into notation. (Don't get carried away by the last one – it's impressive but still limited in practical application.)

Logic Audio provides considerable control over *QuickTime* movies. They can be resized and the standard *QuickTime* controls enable cueing. Movies are automatically synched to MIDI and digital audio and saving a song will also save the location of the movie on disk.

■ Price: £299 (the *Notator Logic* sequencer at £349 is also required).
■ Requires: Mac IIx or better, 8Mb of RAM and System 7 or later.
■ For more details contact Sound Technology on 01462 480000.

Studio Vision Pro

Opcode's *Studio Vision* – which is the *Vision* sequencer with DTD recording facilities – was one of the first to integrate the two types of recording. The *Pro* version is compatible with all Digidesign cards. The AV version was specifically developed for AV Macs, but is also Audio Media compatible.

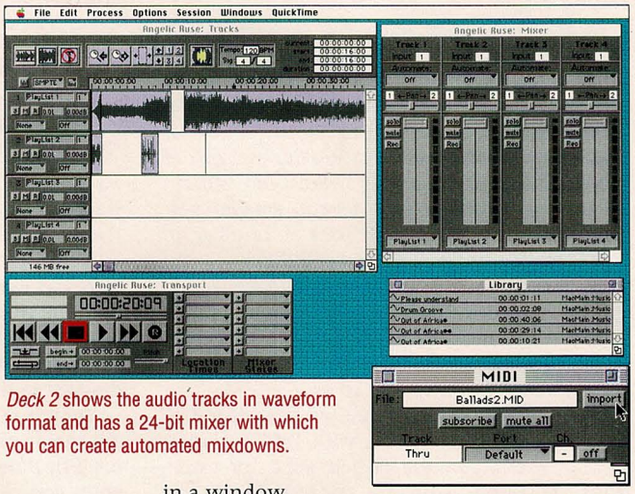
The colourful displays make the program more enjoyable and easier to work with. It has excellent edit facilities and graphic displays, although some functions are a little involved.

Editing's non-destructive and there is full automated mixing with pan and volume controls. Other features include groove quantize. You can edit up to 16 channels of digital audio in each edit window.

Vision is currently the only sequencer that comes with a librarian and *Studio Vision* will be particularly attractive if you have several MIDI instruments.

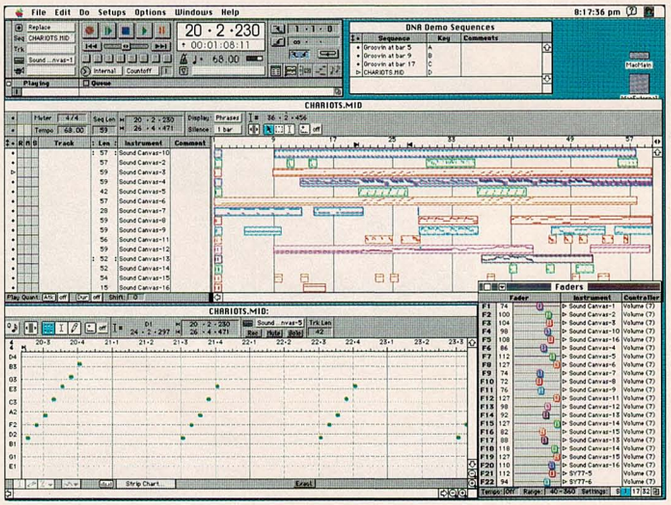
Studio Vision Pro
■ Price: £799.95.
■ Requirements: Mac II, Quadra or Centris with 32-bit addressing enabled, 8Mb of RAM and System 7 or later.
■ For more details contact MCMXCIX on 0181 963 0663.

Studio Vision AV
■ Price: £599.95.
■ Requirements: AV Mac, 8Mb of RAM and System 7 or later.
■ For more details contact MCMXCIX on 0181 963 0663.



Deck 2 shows the audio tracks in waveform format and has a 24-bit mixer with which you can create automated mixdowns.

Although *Deck 2* doesn't include a sequencer, it can import MIDI files to play alongside audio data.



Studio Vision is very colourful, which does make the patterns better to work with. And it's the only program that comes with a librarian.

OSC's Deck 2

Deck is not a sequencer with integrated digital recording; it's a direct-to-disk recorder, more akin to a portastudio, but it can also play MIDI files. It integrates extremely well with OSC's *Metro* sequencer: if you run the two programs together they automatically connect to each other. If you use a different sequencer, you can import MIDI files into *Deck* so it is still possible for you to combine MIDI and digital audio.

Although it is a four track system, you have access to unlimited 'virtual' audio tracks. Recording is non-destructive, but you do have full editing control over the waveforms on disk. You can create fades and crossfades and use the faders to automate mixdowns – that is, separate tracks blended together to make one track.

Deck will also synchronise to *QuickTime* movies. It can put the *QuickTime* audio track into the clipboard to paste into a track. If your Macintosh has video input facilities like those on an AV Mac, *Deck* can even show live video in a window.

Deck 2 is the cheapest digital recording system currently available for the Mac and is worth considering especially if audio recording is more important to your work than MIDI.

■ Price: £410.
■ Requires: AV Mac or IIx, cx, ci, vx, LCII, LCIII, Quadra, Performa 400/600, Centris, 4Mb of RAM and System 7 or later.
■ For more details contact MCMXCIX on 0181 2008282.

Digital Performer

Performer from Mark of the Unicorn was one of the first professional sequencers for the Mac and consequent updates have kept it up there with the best of the them. The addition of digital recording strengthened its standing and the program includes all the major DTD

DIGITAL HARDWARE REQUIREMENTS

Most direct-to-disk recording will work directly on an AV Mac. You may have to buy a special version for it and it may not always support the full range of features, but it's certainly the most cost-effective solution.

If you don't have an AV Mac you need a digital audio card. The only ones currently available in the UK are produced by Digidesign and even the cheapest can cost as much as your Mac.

The most popular card is the Audio Media II, which costs £1,147.99 and is supported by virtually all DTD software. It has four audio outputs, two audio inputs and digital in/out sockets. The digital sockets enable you to keep your recording in the digital domain right up to the time that it is mastered on to a CD. You can also use it to back up to DAT, which is very important when you consider how much hard disk space a recording can use.

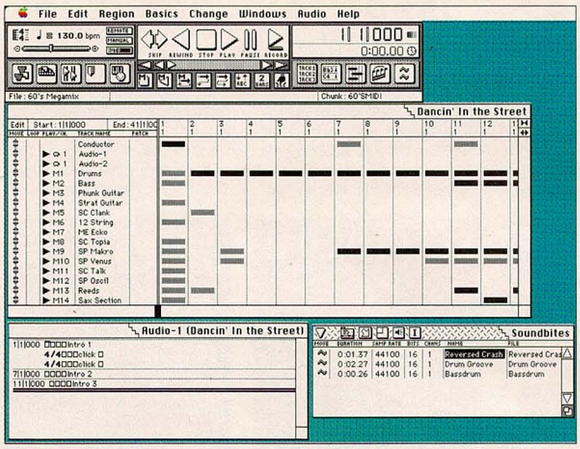
Audio Media LC, which costs £840.13, is a similar card for LC Macintoshes, but it lacks digital outputs.

Other suitable cards include Sound Tools II, which costs £3,091, and Pro Tools 3, which costs from £6,965 for a mega 16 channel system. These have a higher spec and more facilities.

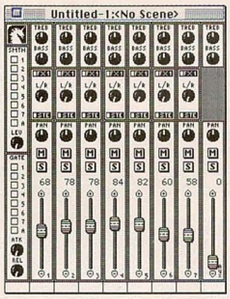
Do shop around for your audio card as specialist shops such as the Apple Centre, whom you can contact on 071 258 3454, have very good deals on DTD hardware and combined DTD hardware and software bundles.

You also need a large hard disk. CD quality digital recording will use around 10Mb of disk space per one minute of stereo sound!

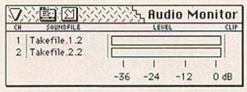
A recent development on the hard disk scene is AV (AudioVisual) drives, which are specially optimised to provide uninterrupted data throughput. Ordinary hard drives heat up while in use and have to perform an operation called 'thermal recalibration' from time to time, during which data can't be read or written. This can cause glitches in operations that require a steady flow of data, such as sound or video recording or even mastering a CD-ROM. AV hard drives don't have this problem. I've been using a Micropolis AV drive (these are available from about £700 for a 1Gb drive) for several months. It has proved totally reliable, and ideal for DTD recording, desktop video and multimedia work.



In *Digital Performer* you can divide audio files into smaller sections of audio data or soundbites and arrange them on the main screen with MIDI data.



Digital Performer has a mixer where you can adjust and balance the sounds for each track. It also includes EQ controls.



Digital Performer's Audio Monitor enables you to check the level of the incoming audio signals.

facilities that you are likely to need.

It supports an unlimited number of virtual audio tracks, and it has a digital event list and graphic edit windows for displaying and editing digital audio. Editing is non-destructive and takes place on soundbites or sections of audio data. Edit functions include Split, Trim, Strip, Silence and Mix.

The *Performer* sequencer has recently been updated and *Digital Performer* is due to be updated early in 1995. At the time of going to press full details were unavailable, but it will definitely include colour – which does make a difference. It will also feature many additional performance enhancements.

- **Price: £699.**
- **Requirements: IIx or better, 8Mb of RAM and System 7 or later.**
- **For more details contact Klemm Music Technology on 01462 733310.**

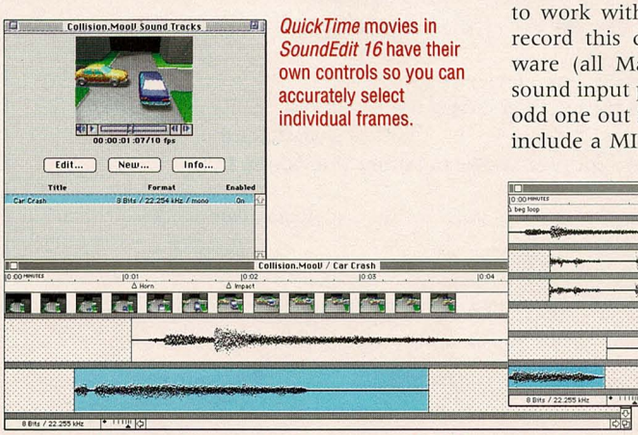
SoundEdit 16

As its name suggest, *SoundEdit 16* enables you to work with 16-bit digital audio, although to record this quality you'll need suitable hardware (all Macs since the LC and IIsi have a sound input port, but this is only 8-bit). It is the odd one out in this round-up because it doesn't include a MIDI sequencer, can't synchronise to one, and won't play MIDI files, either. But it does have great support for *QuickTime* movies.

Each sound (recording) is given its own track and you can apply to them such effects as amplify, backwards, fade in and out, delay, echo, reverb, pitch shift and equalisation. You can drag tracks along the time line, so it's easy to synchronise them together.

The program shows the frames of a *QuickTime* movie along the top of the screen, which enables you to line up sound effects and music hits easily. In fact, if you only want to add digital audio to *QuickTime* movies, it's one of your best options.

- **Price £299 (upgrade from earlier versions £95).**
- **Requires: LCII or better, 5Mb of RAM and System 7 or later.**
- **For more details contact Computers Unlimited on 0181 800 8282.**



QuickTime movies in *SoundEdit 16* have their own controls so you can accurately select individual frames.

SoundEdit 16 is an excellent way of adding sound to *QuickTime* movies – you can see each movie frame and position the sounds in relation to them.

SoundEdit 16 supports an unlimited number of virtual tracks that you can mix together to produce a finished soundtrack.

JARGON BUSTERS

Crossfade: causing one track to fade out while another fades in.

EQ: equalisation, a posh term for tone controls.

Non-destructive editing: using pointers to indicate parts of a digital audio file that can play independently, obviating the need to cut up the main recording into sections.

Portastudio: normally a portable, four-track-casette-tape-based recording system – you can also get a six-track sytem.

Time stretch: a function that enables you to change the pitch of a recording without changing the length and vice-versa.

Virtual tracks: even though a program may only be able to physically play four tracks at once, virtual tracks enable you to record many more and then choose the four to play from the list.

Selling fast

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ISSUE 5

October 1993

■ **On the disk:** *Do It All!; PopChar; Greg's Buttons; Pathways Into Darkness*

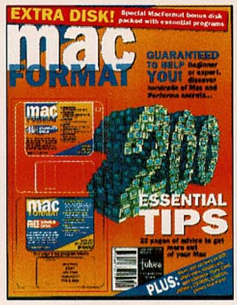
■ **Inside:** Computing on the move; PowerCD on test; Photo CD software; 50 *QuarkXPress* tips; PowerBook buyer's guide plus how to design effective posters

ISSUE 6

November 1993

■ **On the disk:** demo of *Civilization; Eclipse; Tetris 2000; Startup Downloader, The Grouch*

■ **Inside:** How to choose and use a scanner - from hand helds to flatbeds; *Morph 2; AutoRoute* and C.A.T reviewed; 50 *PageMaker* tips; plus *Claris Brushstrokes*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■ **On the disks:** *NIH Image; Graphic Converter; Maelstrom; Mariner; AutoRoute* demo

■ **Inside:** Loads of Mac and Performa secrets revealed - 200 top tips in all; Adobe *Dimensions* reviewed; review of *WordPerfect 3.0;* plus how to design covers

ISSUE 9

February 1994

■ **On the disk:** *SimCity 2000 demo; Greg's Browers; Bobzilla; QuarkXPress 3.2* patcher

■ **Inside:** Bumper games guide: *SimCity 2000, Populous, Myst* and more; *FreeHand 4* reviewed; tips for keeping your Mac safe; plus language tuition software

ISSUE 10

March 1994

■ **On the disk:** Over 30 indispensable True Type fonts; *Apollo* and *Disinfectant 3.3*

■ **Inside:** Integrated packages head-to-head; tips and tricks on graphics; *Creative Writer* review; *FA/18 Strike Hornet* review; plus Canon BJC-600 printer on test

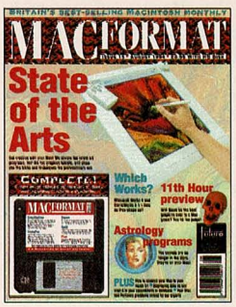
ISSUE 13

June 1994

■ **On the disk:** *Syndicate* demo; *Disinfectant 3.41; IconBOSS*

■ **On the CD-ROM:** sorry, CD-ROM edition is no longer available

■ **Inside:** How to double your RAM and disk space – without buying extra hardware; *Print Shop Deluxe; ColorStation*; Fargo Primera printer



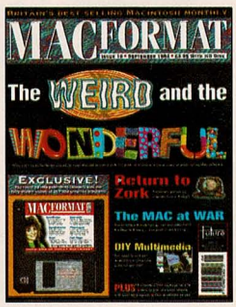
ISSUE 15

August 1994

■ **On the disk:** *GrayStation; Vistapro* demo; *Quill*

■ **On the CD-ROM:** sorry, CD-ROM edition is no longer available

■ **Inside:** art on the Mac, including reviews of *Dabbler, Fine Artist* – and the Wacom, CalComp and Summagraphics tablets



ISSUE 16

September 1994

■ **On the disk:** *ColorStation 2* and *HomePublisher* demos

■ **On the CD-ROM:** sorry, CD-ROM edition is no longer available

■ **Inside:** our guide to weird Mac software; plus reviews of *Multimedia Workshop, Home-Publisher* and *Return to Zork*

ISSUE 17

October 1994

■ **On the disk:** *Crunch 2.0* and *Conflict Catcher* demo

■ **On the CD-ROM:** sorry, CD-ROM edition is no longer available

■ **Inside:** discover how to future-proof your Mac with our top add-ons; plus reviews of *Sensory Overload* and *WordPerfect 3*

ISSUE 18

November 1994

■ **On the disks:** Internet software bundle; troubleshooting utilities

■ **On the CD-ROM:** *ClarisWorks 2.1, Rebel Assault* and *Sensory Overload* demos

■ **Inside:** How to beat those startup problems; plus *Norton Utilities 3* vs *MacTools 3*

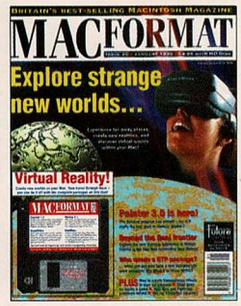
ISSUE 19

December 1994

■ **On the disk:** Hot action with *Wolfenstein 3D; Kid Pix*

■ **On the CD-ROM:** Games galore; *Now Utilities 5.0; Links Pro* demo; plus loads more

■ **Inside:** The lowdown on accelerators; the 20 top Mac games; plus SCSI troubleshooting



ISSUE 20

January 1995

■ **On the disk:** Build worlds with *Fractal 1.2;* plus *Maniac 2.1.1*

■ **On the CD-ROM:** Demos of *Painter 3.0, PowerMonger; Vistapro,* and *Four Paws of Crab*

■ **Inside:** Virtual reality special: *KPT Bryce* and *Star Trek Tech Manual; Word 6* vs *Nisus Writer*

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Information superhighway patrolman Derek Smith revs up his modem – and MACFORMAT's telephone bill – and goes weaving through the late night 'Net traffic in pursuit of top shareware.

Great! I've just been informed that I'm to get a direct Internet connection. No more modems, no more busy tones, and my own lane on the information superhighway. I think it might have something to do with the fact that of the ten most expensive phone calls made by Future Publishing the other month, seven were mine. And no, I don't have an aunt in Australia.

Arashi 1.1.1

ARCADE GAME

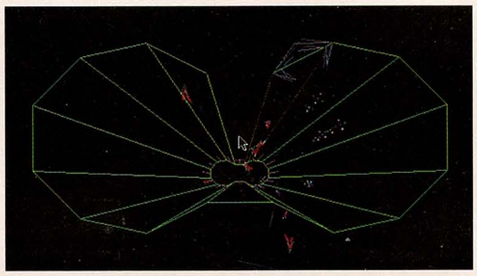
Freeware

If you're a really dedicated reader, you'll instantly remember all the shareware reviewed in MACFORMAT 1. It wasn't me writing then – I was still in my pram. But the reviewer mentioned a game called *Storm*, which was at the beta testing stage. It's been finished, changed name due to tax reasons, and has ended up on my Mac.

It's an unashamed blast-'em-up, which plays incredibly fast on an LCII. It left me dazed and exhausted. The gameplay concept is pleasantly odd. You control a space ship that sits at the top of a tube, which is laid on its side. Baddies then appear at the bottom of the tube and fly towards you. You have to shoot them before they reach the top. Fail in that simple task and your life expectancy drops to that of a plump wildebeest attending a lions' dinner party.

Using the mouse or pre-set keys, you spin clockwise and anti-clockwise around the top of the tube and shoot bullets that speed down its length. The baddies play unfair by moving from side to side, causing frantic sessions of mouse wiggling as you try to line up your shots.

There are 96 levels, loads of enemies and lots of different shaped tubes. This game will keep all blasting fans occupied for hours and it's completely free. With its great sounds and compulsive gameplay, this is a truly superb piece of software.



As far as graphics go, *Arashi* maybe a little on the short side, but then so was Napoleon and he was always the life and soul of the party. Get the picture?

Where to find them

We often get calls from keen readers who want to know where they can get hold of some of the shareware we review in these pages. Well, here are some of the ways:

1. Buy the CD-ROM edition of MACFORMAT, because all the shareware we review is on there in a separate folder. There's also a wealth of other shareware on the CD, which we've sorted into categories for you.

2. Write to a shareware dealer; there are several who advertise in the back of MACFORMAT. The dealer should have the program you are after, especially if they subscribe to our CD-ROM edition!

3. Use the Internet, if you have access. One of the best sources around is Imperial College at **src.doc.ic.ac.uk**. Use ftp to connect (login: anonymous; password: your e-Mail address) and cd to computing/systems/mac. Personally, I use the umich directory, but sumex is fine as well.

4. In a few months we will be setting up our own bulletin board using a brand new version of a wonderful BBS program, which should be absolutely brilliant, and a joy to use. We will let you know as soon as it is up and running. Future Publishing is also about to become an Internet site, so you'll soon be able to access us like any other Internet server.

5. Local user groups often have libraries of shareware, so see if you have one near you. There are some listed in our Reader Ads section (see page 122).

Finally, wherever you get your shareware, beware of viruses. At the time of going to press, *Disinfectant 3.5* (on MACFORMAT 14's cover disk) was the best and cheapest way of staying safe.

MacSurvey

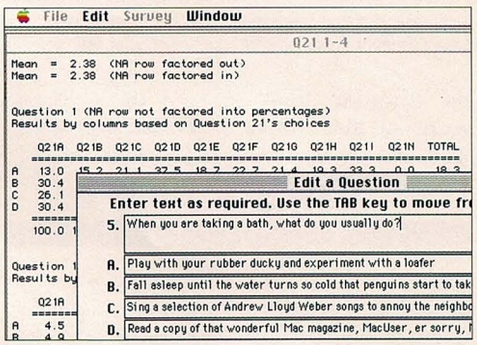
SURVEY COMPILER

Shareware $20

Do you carry out surveys? Are you sick of having doors slammed in your face? Do you suffer from compiling results? You need *MacSurvey* and a PowerBook. Yes, banish those rejection blues with the very latest in high-tech data-collection technology.

You'll be amazed when you knock on a stranger's door and ask if he'd like to spend ten minutes answering a survey in the freezing cold. Even if you catch him *in flagrante delicto* with the blonde from next door, he's bound to say 'Yes please, it would be an honour,' when he sees the gleaming PowerBook in your hand.

Now, I know what you're thinking: 'What do I do with this flood of informative replies?' Well, fear not. *MacSurvey* is fully capable of collating all your data and storing the information in an easy-to-digest format. So come on, all you intrepid fact-finders, go and get a copy of *MacSurvey* today. You know it makes sense.


File Edit Survey Window
Q21 1-4
Mean = 2.38 (NA row factored out)
Mean = 2.38 (NA row factored in)
Question 1 (NA row not factored into percentages)
Results by columns based on Question 21's choices
Q21A Q21B Q21C Q21D Q21E Q21F Q21G Q21H Q21I Q21N TOTAL
A 13.0
B 30.4
C 25.1
D 30.4
100.0
Edit a Question
Enter text as required. Use the TAB key to move fr
5. When you are taking a bath, what do you usually do?
A. Play with your rubber ducky and experiment with a loafer
B. Fall asleep until the water turns so cold that penguins start to tak
C. Sing a selection of Andrew Lloyd Weber songs to annoy the neighbo
D. Read a copy of that wonderful Mac magazine, MacUser, er sorry,

Creating your own questions with *MacSurvey* is simple. Would you (a) get a copy and learn how to use it; or (b) stuff it, and play another riveting game of *Arashi*?

Audiodeck 2.0.6

MUSIC CD CONTROLLER

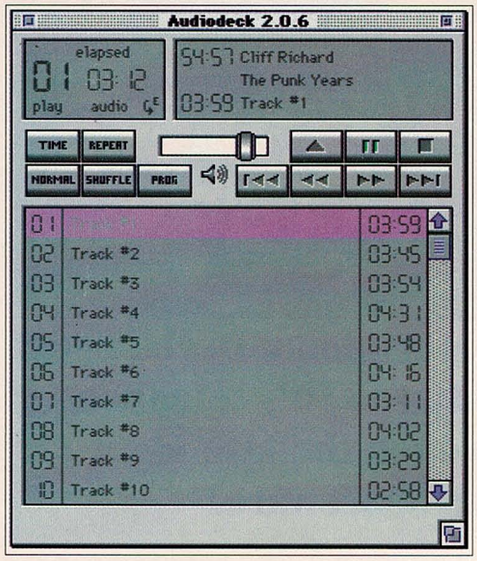
CDware

CD-ROM players are wonderful things, giving you access to titles from *Beethoven's 9th* (a tour of his music), to the *Interactive Lovers Guide* (a sex manual for people who like manual sex). But when you're not perusing mind-expanding multimedia you needn't let your drive go unused. You can play audio CDs!

You should have got a program called *CD Remote* with your Apple CD-ROM, but if you haven't got one, or you use a third party CD drive, then try *Audiodeck*. It has a few features that Apple's *CD Remote* doesn't have: it will automatically play a CD when it's inserted, for instance. And anyway, it looks a lot better.

I also found it easier to use, but the question is: would you pay for it? Well, the payment is to send an audio CD to the author. A great idea, except that he doesn't say it has to be any good. He's probably already snowed under with Andrew Lloyd Webber's Greatest Hits.

To try this program out, all you need is a pair of speakers or headphones. These must be plugged into the audio-out socket located on



Multi-task with *Audiodeck* as you to listen to your music collection while typing your latest novel on your Mac.

the CD-ROM drive, and not the audio-out socket at the back of your Mac. Get down, man, and groove. *[Wrong decade, Derek – Ed.]*

Heritage 2.0.5

GENEALOGY

Shareware $15

Heritage is a rather basic program designed to create family trees. Or, at least, to track genealogy. It doesn't have anything as fancy as a bush in it, let alone a tree. And this is where the program disappoints.

There are few other shareware genealogy programs around, and none of them are very good. If all you want to do is keep a track of your family and keep biographies of some of them, then this is an adequate program. It has all the usual things you would expect: births, deaths, who's married to whom, offspring of illegitimate affairs etc. All the basic stuff that happens in most families.

Unfortunately you can't even use the software properly until you pay up. This is because, until you register, there's a limit of 40 people in a family. Fine if your family has just been wiped out in a freak car wash accident *[Crash, surely? Unless you wash your car in the North Sea – Ed]*, but useless otherwise. I think I'll keep looking for a better program, especially one that can cope with sheep.

Heritage comes complete with details of the Tudor family. In a folder named Photographs you will find some of their pictures. I didn't realise Henry VIII was keen on photography.

PhoneCharge 1.1

CALL LOGGER

Freeware

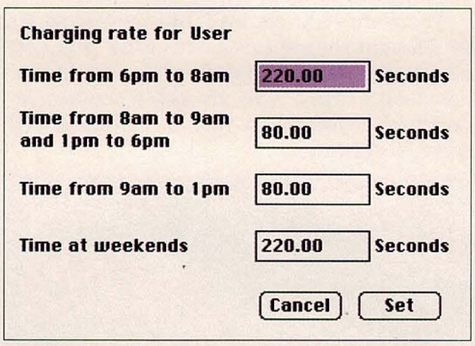
It's good to talk. Especially if you've just been arrested. Oh dear, bit of politics there. *[His name's Derek Elton, good night – Ed.]* But if you use the phone a lot then maybe you should consider this piece of British freeware.

When you make a phone call you click on the Start button. When you hang up, click on Stop. Still with me? As you are talking you watch a small blue bar creep across the screen and there's a running total of the cost of the call in figures. So how does the program know how much the call cost?

Before you make the phone call, you'll need to tell the program what distance the call is. You can also change the cost of a unit, and how long that unit gives you at different times of the day. All of these variables are preset, and correct at the moment, but they are bound to change when the chairman gets his pay rise.

The program can also keep a log of your calls and save this to a text file. Everything you need to price your calls is here.

The only reservation I have is the time and bother needed to load the program every time you pick up the phone. If the idea of *PhoneCharge* is to help save money, then I have a better suggestion: wait until they phone you!



PhoneCharge tells you exactly how much money that phone call just cost you. However, it doesn't take account of whether you just told your bank manager to get stuffed.

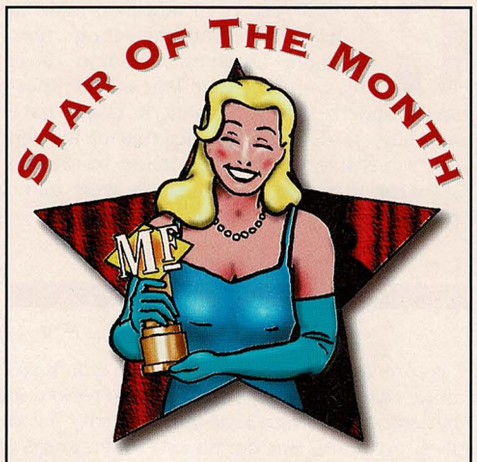
Dialog View 2.0.1

UTILITY

Shareware $10

The standard dialogue box for opening and saving files is very easy to use but has not been improved or updated for a while. *Dialog View* is a Control Panel that gives you several options and extras to improve these dialogue boxes.

The first and most common complaint is that dialogue boxes are too small. Designed to work with the nine-inch Classic screen, they look rather puny on a standard 14-inch screen. Often you can only see seven or eight items at one time, leading to a lot of scrolling up and down to find the file you want. Macintosh file names can also be 31 characters long, but the



Scripture Memory 1.3

MEMORY TEST

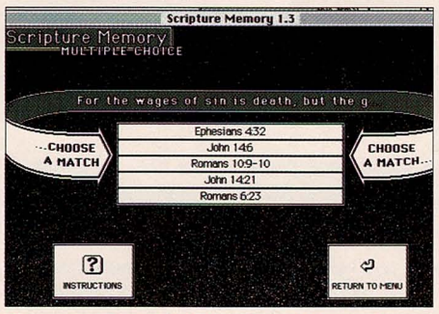
Shareware $7

What did Jesus say when the soldiers nailed him to the cross? No, not 'Hey! I can see my house from up here,' but rather, 'Forgive them, for they know not what they do.' Great chap, that Jesus. If you want to brush up on things he did and said, then *Scripture Memory* is so far up your street that it's parked right in your front room and dripping oil on the cat.

This *HyperCard* stack comes ready with loads of biblical quotes already entered for you. You can also enter you own quotes and text, so the stack can be used to learn any text, such as poetry or Shakespeare. Which reminds me: what did Julius Caesar say when Brutus gave him a good poke with a rather sharp knife? 'Et tu, Brute?' apparently, and not 'I've been getting these terrible stabbing pains just recently.'

Questions can take one of several forms. There're missing words (the biblical equivalent of *Blankety Blank*); a memory test, where you have to write the whole of a passage; multiple choice questions; and my favourite section, where you get all the words of a quote jumbled up and you have to sort them out.

Scripture Memory is a thoroughly good program which seems bug free. It's a genuinely good way of learning text, Biblical or not, has a wide range of options and runs at a decent speed. Well worth the $7 shareware fee, and it might just give you eternal life as an added bonus.



'The wages of sin is death, but the g…' I don't where this quote comes from but presumably they were the last words of a very sinful person indeed.

Poor Man's Newton 1.3.1

PERSONAL DIGITAL ASSISTANT

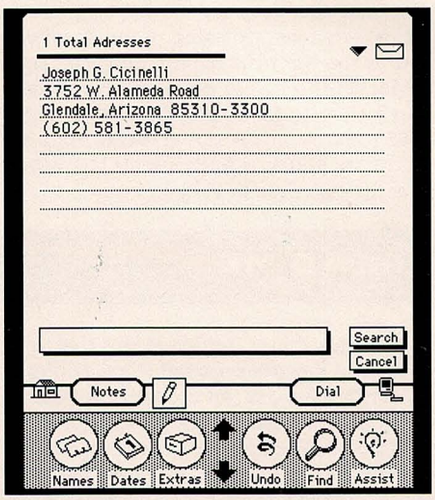
Freeware

Apple's MessagePad (called Newton by everyone except Apple), has a thousand uses. Sadly, 999 of these involve posing. The other is as a Filofax for keeping addresses and phone numbers. This is exactly what this *HyperCard* stack tries to emulate.

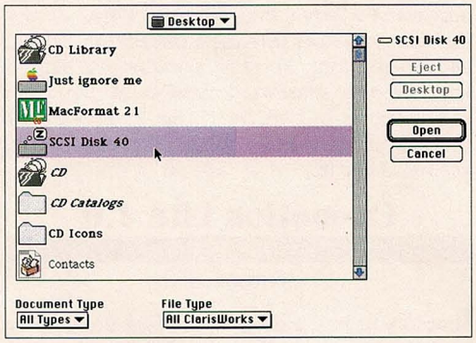
It gives you a screen that looks similar to that of a Newton, which is an impressive machine, especially with its use of handwriting recognition technology – and this goes some way to explaining why it hasn't caught on with doctors! That plus is obviously lost on a Desktop Mac as there is no use trying to scribble on your monitor.

The Newton does have plenty of limitations, but these are forgiven because of its price and pocket size. It does seems rather bizarre though, to transfer those drawbacks accurately on to an expensive full-size Mac – which wouldn't even fit in a shoplifter's pocket. If you want to keep track of people, then use a standard database.

My test machine kept bringing up error messages when I tried to use this program, and the last error message I had summed up my feelings about this program; it said, 'I can't understand this.'



While the Newton has never caught on in the way that Apple hoped it would, it can take comfort in the fact that at least it's a lot better than this program.



It's bigger, it's better, it's bolder, and it's also got cute little icons. *Dialog View* is my sort of utility.

dialogue boxes are too small to show a long name in its entirety! Utilities to enlarge dialogue boxes have been around for a while, such as the excellent *OpenWide*, but *Dialog View* does this and a lot more besides.

You can choose to display a file's icon within the dialogue box, change the font and size of names, and make folder names bold. You can also customise all the settings for different applications, making this a thoroughly superb little program.

QuickDelete 1.0.1

UTILITY

Freeware

Let's be honest. You have a swing bin in the corner of your kitchen into which you throw your rubbish. What do you do when it starts to get full? Do you empty it? No. You just cram stuff in harder, because it's easier than removing the bin liner and dragging it down the garden to the dustbin in the cold.

But unlike your house, you have to keep your Mac tidy. Otherwise your computer will soon run out of hard disk space. This is because a file still takes up disk space even when it's been chucked in the bin, until you select **Empty Wastebasket**.

Wouldn't it be nice if the Wastebasket could empty itself? Well, now it can with *QuickDelete*. Any item dragged on to *QuickDelete* is automatically deleted straight away. Placed next to the Wastebasket, this can prove really handy. Some files can be dragged to the Wastebasket for later deletion, while others can be deleted immediately without affecting the contents of the Wastebasket. Not only is *QuickDelete* a really useful program, but unlike a housemaid, it's absolutely free.

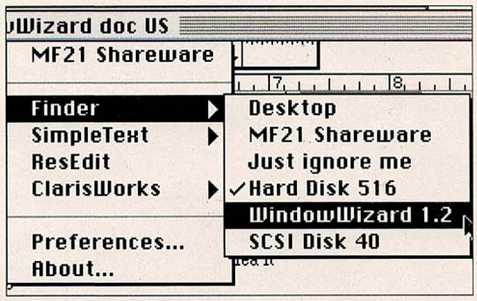
WindowWizard 1.2

UTILITY

Shareware $20

Drop this Extension into your System Folder and you add a wonderful new feature to any program you use. Clicking on the name of a window when using an application reveals a pull-down menu that shows all the applications currently running. Selecting one will bring that application to the front.

If any of the applications have files open, a sub-menu appears to show you those files, and you can bring that specific window to the front by selecting it. All open windows on the Desktop are shown, giving you complete access to



WindowWizard gives you control over your Mac and you can access all areas. Oh no! I'm turning into Terry Christian!

every open window, no matter where it is. I tend to want a little more for my $20, but at least this is a very good program that does everything it promises.

Sargo Noidz

CHESS GAME

Freeware

The concept of this game is simple. The computer controlled enemy has lots of chess pieces to kill you, and you only have one piece to kill all of them. Your little man can move like a king, one square in any direction, and the opponent has a range of chess pieces that all keep to the normal movement rules of chess.

If all this sounds a trifle unfair, that's because it is. I get killed very quickly. Colourful graphics and easy controls just don't make up for it.

Moving on to a square occupied by an enemy piece kills it, but you should avoid moving on to a square where you can be taken

If speed chess is too slow for you then get a copy of *Sargo Noidz* and bash the life out of your keyboard.

by them. There's a furious time limit so it takes a fast mind to win. The only way you'll ever get to see the last level is to kidnap Kasparov, glue him in front of your Mac, and pump him full of performance-enhancing drugs.

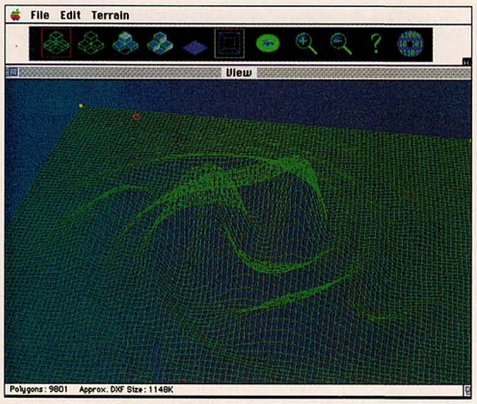
Terrainman 2.0

3D LANDSCAPES

Shareware $10

Following on from MACFORMAT 20's virtual worlds feature – which received much praise (thanks, mum, but I'm out of complimentary copies so Auntie Glad will have to buy one *[See page 102 – Ed]*) – I have another landscape generator. It's not quite in the same league as *KPT Bryce*. If *Bryce* played in the premier league, then *Terrainman* plays in the Torquay and District social club league.

But just like a little football team, what it lacks in style it makes up for in enthusiasm. A



You know what they say, three dimensions are better then two, so design your own worlds with *Terrainman*.

landscape starts its life not in *Terrainman* but in a separate graphics program. You paint a flat image in shades of grey. When that picture is then opened in *Terrainman*, the white areas become hills and the black areas become valleys. This means you can also open greyscale scans in *Terrainman*. Your face could be translated into a landscape just like Mount Rushmore.

Your landscape can now be viewed at any angle and you can zoom in and out. You can also stretch the hills up or down to make a more or less mountainous world. All of this is viewed as a wire frame image and unfortunately that's where it stays. There's no facility to render the landscape into a picture.

This is a shame if you were expecting pretty graphics, but then it's not really what the program is for. Once you have finished your creation, you can save it as a DXF (drawing exchange format) file and import it back into other 3D programs and CAD packages.

It's nothing too fancy but then that is reflected in the low shareware price. For a bit of 3D fun, this is an excellent program.

Terpsichore

FONT

Shareware $15

For the benefit of font fans everywhere, I like to bring you interesting fonts every now and again. Here's one of the latest offerings. With its swirling lines and flowing features it's reminiscent of a lady's thin silk dress rising on the Autumn breeze as the white sun reveals... erm, back to the font. You can actually just pay $5 and use the shareware version of the font, which comes in both PostScript and TrueType versions, or pay $15 and get the commercial version. I like it.

Terpsichore

Spice up those dull letters with this fancy font. I'm sure that it will brighten up your tax returns no end.

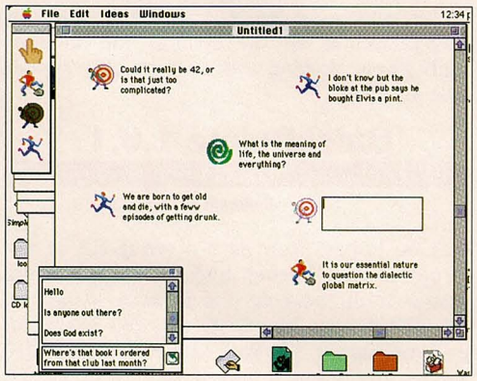
Co-motion Lite 1.0

BRAINSTORMING

Shareware $30

Should you buy a decision-making program or not? If, like me, you're unsure, then shareware is ideal as you can try out the software first.

The idea of *Co-motion* is group brainstorming. You'll need a network, but then it's a simple case of turning on Program Linking from the Sharing Setup Control Panel, and everyone can open the one program from your Mac. Each person is free to enter their own ideas under the headings of Concerns, Objectives and Actions. You can also just send free text messages to each other to discuss the problem.


File Edit Ideas Windows
Untitled1
Could it really be 42, or is that just too complicated?
I don't know but the bloke at the pub says he bought Elvis a pint.
What is the meaning of life, the universe and everything?
We are born to get old and die, with a few episodes of getting drunk.
It is our essential nature to question the dialectic global matrix.
Hello
Is anyone out there?
Does God exist?
Where's that book I ordered from that club last month?

Boring Wednesday afternoons can transform into lively debates about philosophy. Just one of the hundreds of reasons to avoid buying *Co-motion*.

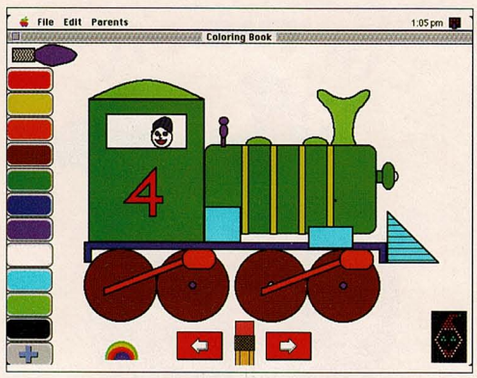
It's up to you whether you want to spend ages training everyone to use this piece of software, or train them to use the telephone. I'm still undecided – maybe I need *Co-motion*, but on the other hand...

Coloring Book 2.01

CHILDREN'S PAINT PROGRAM

Shareware $16

Painter 3.0 may be a great graphics program, but does the typical three-year-old appreciate the subtle palette gradients? No, what they want is fun, and *Coloring Book* delivers this with the subtlety of an RAF air drop. Loads of bright colours, surprise sound effects and even the odd animation thrown in.



Coloring Book is a wonderful program that will enchant children. I coloured this picture myself. Me. Good isn't it?

The idea is that you are given a black and white line drawing, which you, or rather your child, can colour in. Just click on the colour you want, then click on the area of the picture you require, and it's painted in. Clicking on certain areas of the picture can trigger sound effects and animations that give the child even more reason to continue painting.

This a fabulous piece of shareware that kids and adults will love. The only slight quibble is the price. Okay, $16 is not a huge amount but *Kid Pix* can be bought for around £35 and may have greater longevity. Try it and see.

Glidel 2.4.4

UTILITY

Shareware $25

Drag and drop is great. You can drag any old graphic file on to the icon of *Photoshop* and the program automatically opens the file. To take advantage of this feature I have loads of application aliases all over my Desktop so that I can drag files on to them.

Glidel extends the drag and drop idea, enabling you to drag an icon on to the Apple menu and down to an application. It supports hierarchical menus, so if you have a folder containing all your applications in the Apple Menu Items folder, you'll be able to drag a file to any application you want.

You can also drag files to applications that are currently open by going to the Application menu in the top right hand corner and selecting whichever program you want. Now this is a useful facility to have, but I'm not sure about the $25 fee. It seems rather steep for a very small utility which is fairly useful but will just clutter up your System Folder even more.

CONFUSED ABOUT SHAREWARE? THEN READ ME.

Shareware is a form of 'try before you buy' software selling and it's a great idea so long as people are honest. When you get some shareware, the documentation will tell you how much it costs – typically it's somewhere between $5 and $40 – and where to send your money. If you like the software and decide to keep it, then you are morally obliged to cough up. Not only do you get the satisfaction of boasting to friends about how honest you are, but the author will often give you something in return, like a printed manual, or updates when released. The most common problem is sending money abroad, but as many shareware authors now accept credit cards, it's getting easier.

Freeware means that you don't have to pay for it at all. There are many derivations such as postcardware, which means that you have to send a pretty postcard to the author. However, freeware is not the same as Public Domain (PD) because although you don't pay for freeware, the author keeps copyright and you have to follow his terms and conditions to use the program. This often means keeping all the files together and not using or selling them for profit.

ALL PRICES INCLUDE VAT & DELIVERY – NO HIDDEN EXTRAS

MACFORMAT promotions

Once again MACFORMAT has searched high and low to bring you the best Mac products at the best prices...

Style victims

Yes, you too can be the proud wearer of one of these strictly limited edition MACFORMAT T-shirts. Styled in a fetching dark blue with an ultra-trendy Apple logo, they're the ideal fashion item. They're not only eye-catching, but you'll also impress your friends with your Mac knowledge.
MACFORMAT T-Shirt
Price: £9.95
Order code: MACFTSL (large)
(Sorry, no other sizes currently available)

600Mb of programs!

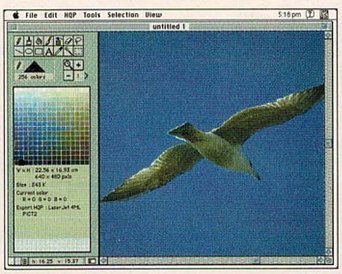
The BMUG PD ROM contains over 600Mb of the best shareware software from all over the world, collected by the Berkeley Macintosh Users Group and put on one CD-ROM (1994 edition).
BMUG PD ROM CD
Price: £39.95
Order code: MFBMUGCD

THE MACFORMAT STAR BUYS

These are four of the best programs that MACFORMAT has ever seen. We are proud to be able to offer these special products direct to you from our magazine. Fill in the order form and get your copy of these essential programs to make your Mac more fun.

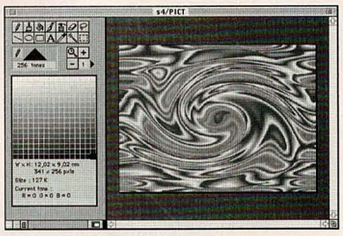
ColorStation 2

(MACFORMAT 13: 90%)
Other software producers could certainly learn a thing or two about ease of use and value for money from Le Pixel. It's hard to fault *ColorStation*. With its straightforward controls, this is an excellent choice for novice DTPers, covering all the graphics and printing bases in a convenient one-stop program.
Price: £49.95
Order code: MFCOLS



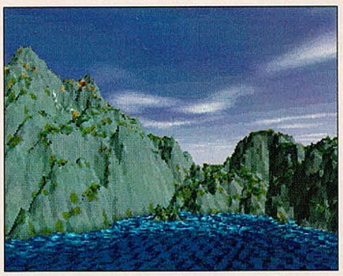
GrayStation 2

GrayStation is a kind of mini-*Photoshop* for greyscale images. *GrayStation* enables you to take an original image and edit it, altering brightness and contrast. Using the program's own unique High Quality Print system, you can create superlative images that print out better than ordinary scans – even on cheap printers.
Price: £39.95
Order code: MFGRAY



Vistapro

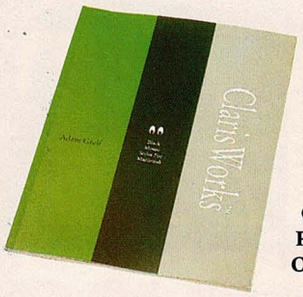
(MACFORMAT 15: 90%)
With *Vistapro* you can create your own landscapes including trees, clouds, rivers, oceans, waves and buildings. Its sheer versatility is breath-taking and the results will stun you. *Vistapro* is a wonderful program that grabs you in much the same way as an addictive game.
Price: £89.95
Order code: MFVIST



Redshift

(MACFORMAT 13: 95%)
Redshift is the best astronomy program there is, and it will provide hours of fascination for anyone with even the slightest interest in star gazing. It's a brilliantly conceived and excellently presented CD, with some genuinely innovative features. It's all that a budding astronomer needs.
Price: £59.95
Order code: MFREDS

ORDER NOW! CALL THE HOTLINE ON 0225 822511



Need help with ClarisWorks?

If you need to know more than the manual tells you, then try this Black Mouse guide to *ClarisWorks*. Inside you'll find pages of practical advice and worked examples to help you get the most from your software. Special MACFORMAT offer – £2 off RRP.

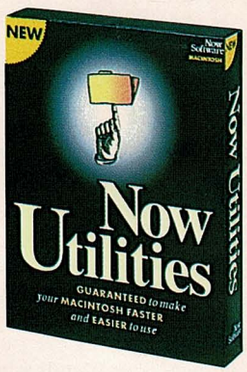
ClarisWorks book
Price: £7.95
Order code: MFCWKB

The essential shareware collection

No fewer than ten high density disks, packed with the very best shareware and freeware programs. No demos, just top-notch shareware software. Too many to list, but included are the latest versions of: *Disinfectant, SoundMaster, Apollo, BeHierarchic, FileTyper, Maelstrom, Graphic Converter*, and over 100 more. All programs work with System 7 and a colour monitor – some require them. Ten disks for just £19.95!

Shareware collection vols 1-10
Price: £19.95
Order code: MFSHARE1

Now Utilities version 5.0



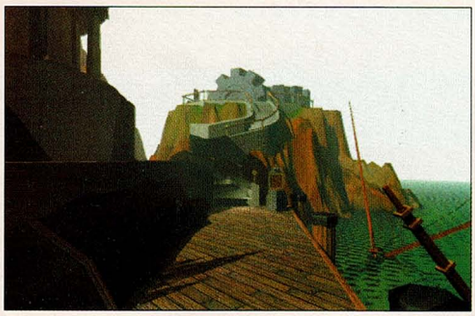
Improve the way you use your Mac with this collection of nine superb utilities. With access to all recently used files and applications, as well as pop-up menus for your folders, you can quickly navigate around the Desktop. You can also save hard disk space with automatic file compression. See our review in MACFORMAT 19, try the demo on the CD, then buy it at this special low price.

Now Utilities v 5.0
Price: £60.99
Order code: MFNOW5

Excel, Word and FileMaker help

In the same series of Black Mouse guides are books teaching you the best of Microsoft *Excel 4*, Claris *FileMaker Pro* and Microsoft *Word 5*. All are available at the same bargain price.

FileMaker Pro book
Price: £7.95
Order code: MFFMPB
Microsoft Word book
Price: £7.95
Order code: MFWD5B
Microsoft Excel book
Price: £7.95
Order code: MFEXLB



Myst

(MACFORMAT 9: 95%)

An adventure that has you exploring an island world with enthralling puzzles to solve and luscious visuals. This graphics extravaganza comes to you on CD-ROM.

Myst
Price: £39.95
Order code: MFMYST

Exclusive HyperStudio offer

We were so impressed with *HyperStudio*, and its ability to enable any Mac user to create multimedia, that we got together with the UK distributors TAG Developments to offer MACFORMAT readers an exclusive deal on the software. We can offer you *HyperStudio* at the special price of £117 – that's almost £50 less than the recommended retail price. For just £117 you can be creating multimedia masterpieces in moments (sorry).

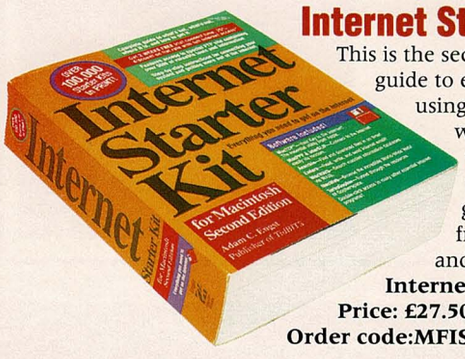
This offer is strictly time-limited, so apply now to get your copy at this special MACFORMAT price before it resumes its normal £165 price.

HyperStudio
Price: £117
Order code: MFHYPER

Theme Park

Your chance to build the theme park of your dreams. Construct the best stomach-churning rides, provide oodles of ice cream and hotdogs, please all the customers and make loads of money. See the review in MACFORMAT 18, and then take advantage of this stonking offer to get your very own copy.

Theme Park
Price: £29.99
Order code: MFTPARK

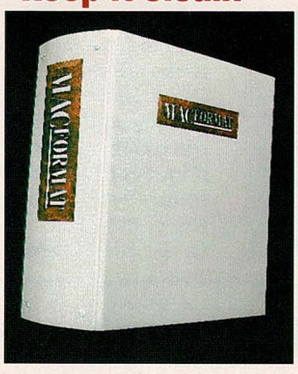


Internet Starter Kit

This is the second edition of this indispensable guide to everything you need to know about using the 'Net. The book comes complete with The Internet Starter Kit disk, which is packed full of useful software. Inside you'll find practical guidance on how to get the most from the 'Net without going bankrupt, and where to look for all the latest info.

Internet Starter Kit second edition
Price: £27.50
Order code:MFISKIT

Keep it clean!



Regular readers will now have over a year's worth of MACFORMATS on the shelf, so to keep them tidy and in absolutely top condition, why not store them in a specially designed MACFORMAT binder? Adorned with the MACFORMAT logo, the binder will keep your MACFORMAT issues in perfect nick.

Binder
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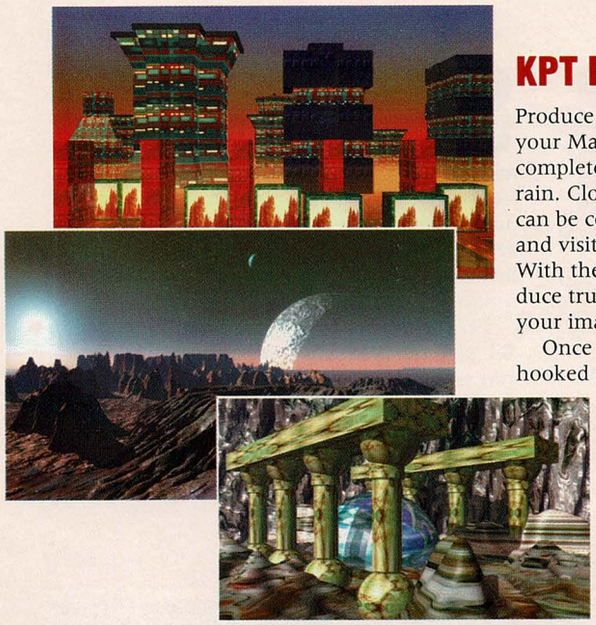
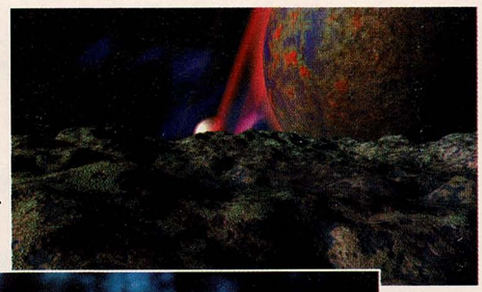


KPT Bryce SAVE over £35 on RRP



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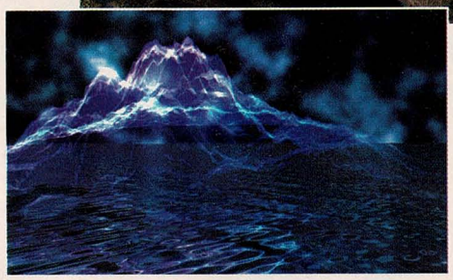
KPT Bryce
Price: £115.00
Order code: MFKPT



The silliest software ever!

UnderWare is a screen-saver, and it can customise the desktop background, but it's much more than that. It's fun. In fact it's downright silly. *UnderWare* animates the screen as you work! Tarzan swings in and collides with the window, a thief makes off with your 68000, babies crawl everywhere, a dragon burns holes in the desktop and so on. It even runs *After Dark* modules in the same way. *UnderWare* has to be the ultimate Mac customiser! We gave it 93% in February's issue. Imported direct from the US, where it costs $59.95, MACFORMAT brings you total silliness for just £34.95.

UnderWare
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We rate the US Robotics Mac & Fax as one of the best modems around, and now that USR has slashed its prices, we can bring it to you for an extraordinary £200. Only a few months ago, it was £469!

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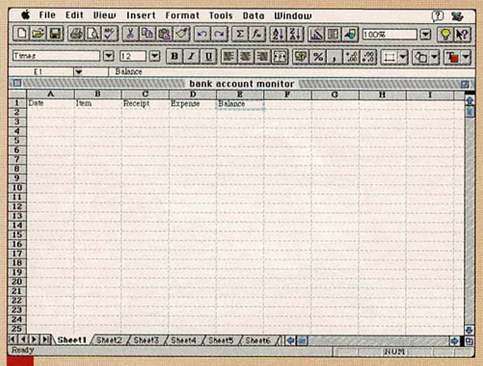
Bank on it

The spreadsheet: it's not sexy, it's not exciting, but it's better than a cheque stub for keeping track of your finances. Andy Storer shows you how to balance your bank account.

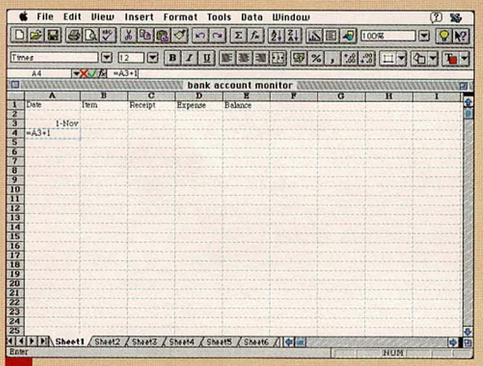
Spreadsheets probably won't feature in the top ten of anyone's Mac 'must-haves'. Thousands of empty cells ready for complex formulae to be entered and a bunch of manuals the size of the Bible? Very interesting! Yet in the same way that you don't need to know every engine part to be able to drive a car, you don't need to be familiar with 95% of most spreadsheets' features in order for them to be useful.

Let's take your bank account as an example. All you need to know is how much money you've got in there at any one time and how much you're likely to have at any date in the future. That way you're able to plan your expenditures ahead and find out how much you're likely to have spare at the end of any

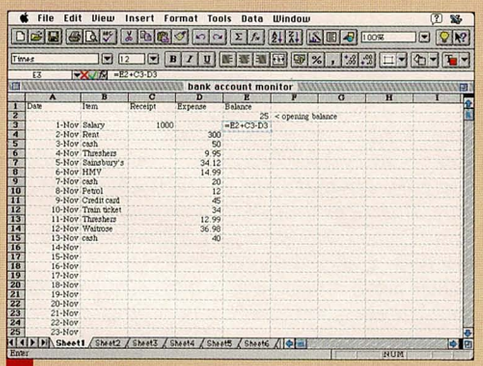
THE RIGHT BALANCE


File Edit View Insert Format Tools Data Window
bank account monitor
Date Item Receipt Expense Balance
Sheet1 Sheet2 Sheet3 Sheet4 Sheet5 Sheet6
Ready
NUM

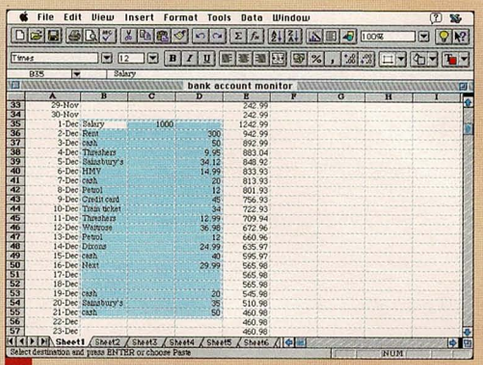
1 Don't be put off by the enormous number of icons here – this is *Excel 5* and it's the most sophisticated Mac spreadsheet you can buy! What you're after, though, is a simple bank balance calculator. You can begin by entering your column headings. As you can see, all you need to do is select the cell that is to contain the text and press **[Return]** – hey presto! Nothing could be easier!



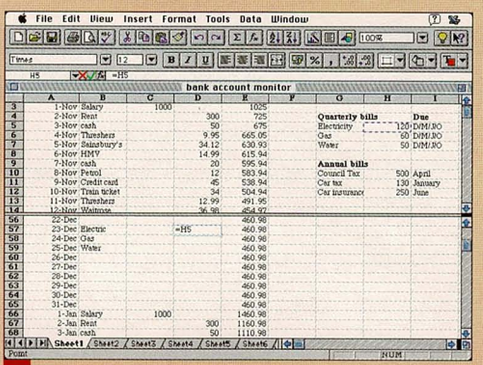
2 What you're going to create is a day-by-day monitor of your bank account balance, so here we set up the dates. If you type just '1 Nov', *Excel* is smart enough to know you mean a date. Since it recognises the date as a number, all you need to do is take the value in cell A3 and add 1 to it to arrive at November 2nd. Then by Copying the contents of A4 from the **Edit** menu, you can select all the cells beneath A4 and Paste the formula into them. Again, *Excel* is smart enough to know that November doesn't have 31 days and February has only 28, so there's no painful editing required.



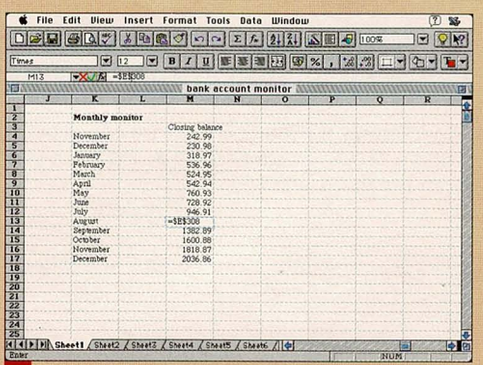
3 Now you can begin to add the items and their associated figures for the month of November by typing the text and numbers into the appropriate cells. When you come to finding out the balance you're all set to type in your first formula. We chose a really easy one here – all we did was take the opening balance in E2, which is £25, and added to it the sum in C3. We also put a subtraction for any figure that may appear in the D column. This is so we could Copy the formula downwards, and therefore it covers us for all possible sums entered in either column whether they are receipts or expenditures.


File Edit View Insert Format Tools Data Window
bank account monitor
Sheet1 Sheet2 Sheet3 Sheet4 Sheet5 Sheet6
Select destination and press ENTER or choose Paste
NUM

7 Now we start getting to the interesting part. If you consider all the money you've earned and spent in November as being pretty representative of your monthly spending pattern, you can select the lot using **[Command] A**, and Copy and Paste the selection into each and every month for the next 12 months or longer. As you do so you can note any likely changes that you know might come along – like a pay rise or a rent increase – and enter the projected values. As you Paste your monthly spending pattern into subsequent months, the balance will then update itself automatically.



8 But as you know it's those pesky bills, which always drop on your doorstep right out of the blue, that make a mockery of your financial planning. So if you know in which month they're going to be arriving you can add them to your spreadsheet. Here we used *Excel's* built-in split-screen view to Copy and Paste the values for electricity, gas and water into the four months when the bills will be served. In the same way, you can add the figures for your annual overheads into their respective months too.



9 Once you've Pasted in a whole year's worth of income and expenditure in this way you can move to another part of the spreadsheet and create an at-a-glance guide to your finances. Here we took each month's closing balance and set up a simple table. Notice how we've used the $ sign to provide the reference for the closing balance for August and other months. The reason for this is that the $ sign forms an absolute reference to the cell E308. Thus even if we were to insert hundreds of rows into the spreadsheet between now and August, the reference in M13 will always correspond to the last day in August. So even if cell E308 becomes cell E350 because of rows being inserted further up the spreadsheet, cell M13 will take account of this and always show the correct balance for the month of August.

month. Setting up such a spreadsheet is dead easy – and what's more you don't need to break the bank to find one that'll do the job because there's no more than a handful of formulae involved. In the walkthrough below we show you exactly how to set up such a spreadsheet and enhance it to act as a ready reckoner for planned expenditures. Whatever spreadsheet package you're using, the principles remain the same – although you may have to consult your manual for the particular formula phraseology your package requires.

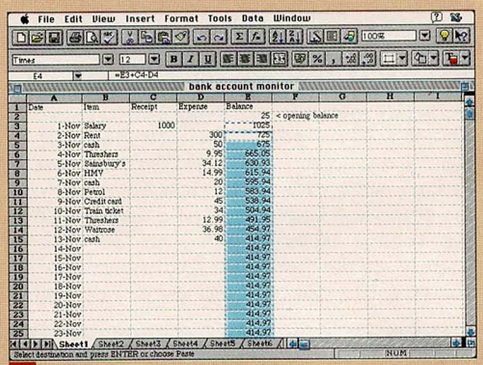
Other than that, it should be plain sailing, but make sure you have your package set to automatically calculate, and if you have limited memory don't go designing a spreadsheet that takes your financial forecasting through to the year 2000! Not only will your Mac struggle to scroll through the rows of figures, but calculations will take their toll on your system too. If you do have complicated financial arrangements, you can also turn off auto-calculate while you're designing the sheet and turn it on only when you want to check the results.

If you have, say, a number of bank or building society accounts you might like to try linking spreadsheets together. This saves on the amount of data you have scrolling around the screen at any one time and is also useful because links are automatically updated between sheets whenever they're opened. So, if you have a financial set up that involves money being exchanged from one account to another, linking an appropriate number of different spreadsheets is a particularly handy way of keeping track of proceedings.

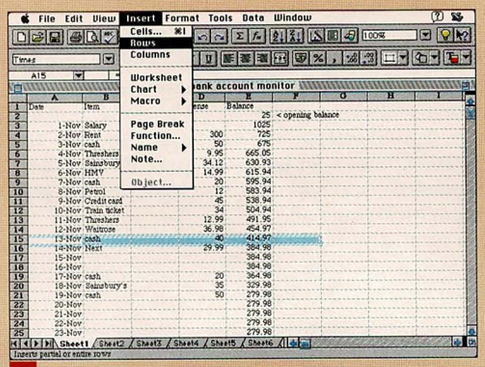
Linked spreadsheets are easy to set up – all you need do is open several documents, select a cell in one, enter an equals sign, go to another and click in the desired cell. When you return to the first document you'll notice the cell contains a reference to the linked spreadsheet.

Also bear in mind that the finished document can be prepared to look a lot more attractive than the example shown here. Most spreadsheet packages offer the facility to remove the grid lines as well as format the column widths and style up the text. In addition if you have *Excel* for instance, you can convert the spreadsheet's contents into a 2D or even 3D graphics extravaganza.

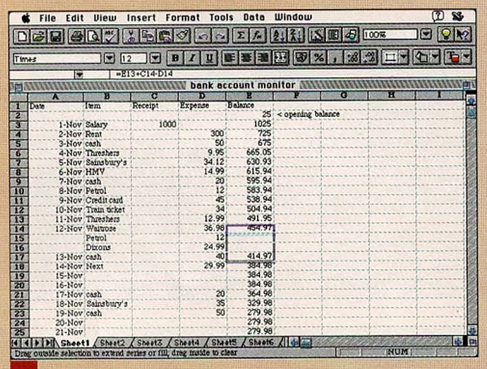
Andy Storer



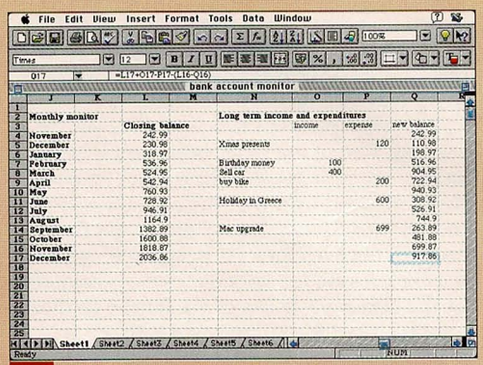
4 Once we'd selected E3 we Copied its contents. Then, after selecting all the cells we wanted to make the formula apply to, we Pasted its contents into them. In this way, E3 becomes the new 'opening' balance for cell E4, and the entries in C4 and D4 are thereby added and subtracted accordingly. Once you've Pasted the formula downwards through the column you need not worry about having to make any manual calculations – that's the beauty of spreadsheets, right?



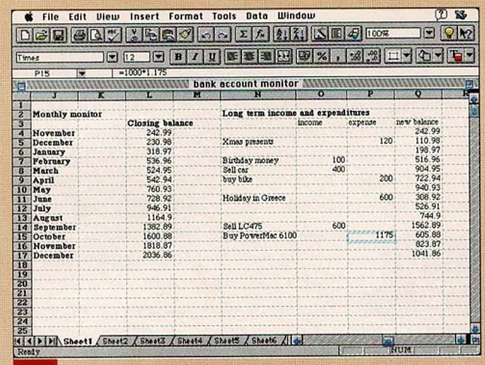
5 But supposing that you write more than one cheque or draw out more than one cash transaction in any one day? What you need to do in that case is insert a few rows to make space for the additional daily entries. You have to make sure that you insert new rows across the entire five columns – otherwise you will get into all sorts of trouble with cell references not matching up.



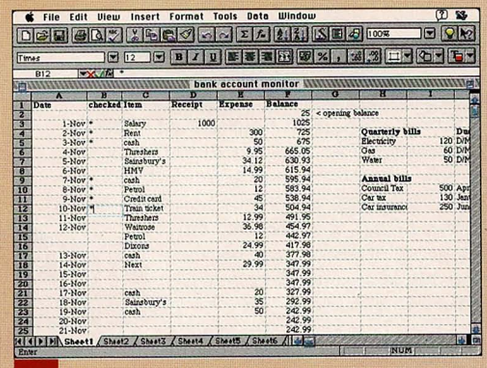
6 And the first thing you'll realise if you insert a few rows is that the balance formula no longer applies to the newly inserted cells. So what we had to do, in this case, is take the formula in cell E14 and Paste it across the new cells. We had to make sure that we Pasted it as far down as E17 though, and not just as far as E16; otherwise E17 would've still taken the balance in its old 'opening' balance cell – namely E14. *Excel* is neat in this respect because you can simply click on the right-hand bottom corner of cell E14 and drag it over the four cells beneath. This has the effect of Copying and Pasting its value through these cells.



10 Move to a new area of the spreadsheet and you can set up a simple planner. All this does is enable you to see the effects on your finances immediately of any planned expenses or expected additional income. But depending on the closing balance for any particular month, you can see whether it's better to wait until September rather than June to go on holiday, for instance. In this case though we're pretty flush and we could afford the holiday even if we didn't sell the car. The formula for this calculation is pretty straightforward too. We just took the projected closing balances for each month from column L, then added income and subtracted expenditures to form a new balance in column Q. Note how we used brackets in the formula to specify that the equation between them should be treated separately as a single sum.



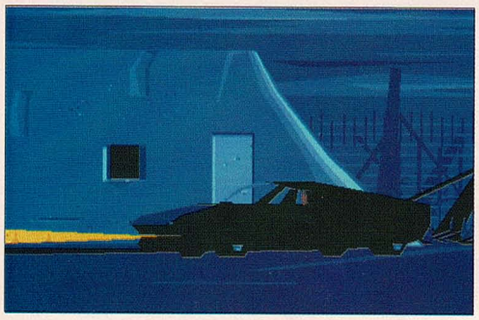
11 Once this is set up you can experiment with different scenarios. Why not flog the LC475 instead of upgrading it, for instance, and buy a PowerMac? (It certainly looks like we can afford it because by next September they'll have come down in price in any case.) If you assume £1,000 for an 8Mb 6100, all you need do is multiply this by 1.175 to arrive at the total with VAT included.



12 When your actual bank statement arrives you can check its details against your own record – and add all the exorbitant charges that have mysteriously appeared out of nowhere! You can also tick off each item as you check it against the statement by inserting a new column that holds just an asterisk to signify this. In this way you can keep tabs on any cheques that haven't yet been cleared or are still working their way through the system. All in all, such a simple spreadsheet should help you organise your finances better, but until banks are on-line you won't ever be 100% sure of what your exact balance may be on a specific day. At least this system will give you a good indication of how broke or well off you are.

Cut-price... and

Software houses aren't entirely stupid organisations; they realise that there's a good market for games in the aftermath of Christmas. People have new Macs and these people want games for their new Macs. So, thinketh the software houses, let's bung out a load of cheap or re-released software and milk that crusty old /crappy new title for every penny we can...



Our hard working physicist returns from a day at the races, in his cherished 1983 Ford Capri.

ANOTHER WORLD

Oh, those wacky, innovative French with their curious ideas about storylines and gameplay. Occasionally they manage to release a game that's half decent and this game falls quite neatly into that category. Unfortunately, like many budget games, it's beginning to show its age, even though it's only four.

You are a physicist working on the way that particles bounce off each other. One day you try a new experiment. But something goes wrong and you get zapped into a new dimension (it could happen to anyone). This new dimension looks a lot like prehistoric Essex and is populated by a load of nasty creatures that are intent on killing you.

Essentially this is an arcade adventure. You control the actions of Lester (the physicist) as he does battle with the locals and tries to avoid the crumbling landscape. Apart from the obvious combat elements there are portions of strategy in the gameplay, for instance where you've got to work out a safe route through a

You've gotta watch where you tread when you're between dimensions. These slimy bug things can kill with one bite.

A SHORT HISTORY OF ADVENTURE GAMES

THE SECRET OF MONKEY ISLAND

Long, long ago, when Clive Sinclair had street-cred, the Rubik's cube was all the rage and Simon Le Bon had just started shaving, adventure games were duller than *Terry and June* repeats. They were all text and all tedious (see *Zork Anthology*, right). Then one fine day, *Monkey Island* appeared from nowhere. Playing this game for the first time was like supping your first pub pint.

Monkey Island is an outstanding game for two reasons. First, it's one of the original graphic adventures, and second, it's jolly funny. In about 2*MI* (that's two years before *Monkey Island*), the 'humour' in any genre of game was about as amusing as another four years of Tory Government. But then the LucasArts team, lead by Ron Gilbert, created a game that's as funny to watch as it is to play. It embraces toilet humour, it takes the mickey out of the famous Sierra range of games and it's got a tribe of vegetarian cannibals.

What's really liberating about *Monkey Island* is that you can't die. It doesn't matter what you do, Guybrush Threepwood (the main character) will live to tell the tale. This approach means you're encouraged to try anything in order to solve a puzzle rather than worrying about it killing you. The game appeals to the little kid in everyone, encouraging mayhem. For example, you're up on a plateau and you've got to dislodge some bananas from a tree by firing rocks at it from a catapult. As you stand on the plateau you realise you could probably hit your ship that's moored in the harbour, so you lob a large rock in its direction. The result – yeah, you guessed it – you sink your ship.

It was my lot, some four and a half years ago, to write the very first review of *Monkey Island* (for *ST Format*). There have been an abundance of adventure games released since then, but just like an Aston Martin, a good bottle of wine or Rolf Harris, *Monkey Island* has matured wonderfully, losing none of its appeal in the process.

- **Price: £19.99. Out: now.**
- **Requires: any colour Mac with System 6.0.2 or later.**
- **For more details contact Kixx on 021 606 1800.**

MACFORMAT Classic

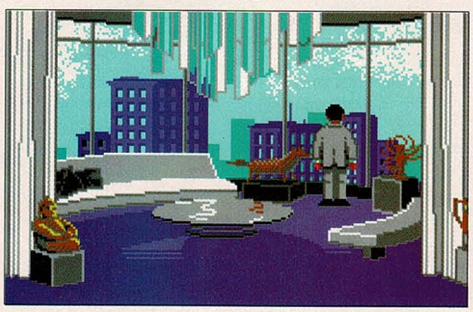
All's quiet in down town Pirateville. Which is surprising really, because the pubs have just emptied.

MACFORMAT RATING **91%**

INDIANA JONES AND THE LAST CRUSADE

He came, he saw, he smiled at the camera and he flicked his whip a lot. Indiana Jones, the matinee idol, is a perfect choice for a computer game because he was a pseudo comic book character in the first place. LucasArts released this game some five years ago, before *Monkey Island*. Unfortunately, despite the fact that *Indiana Jones* was written by the same team, it hasn't aged half as well.

You play Indy. His task – well, if you've seen the film of the same name you'll know exactly what's expected: he's asked to find the Holy Grail by a wealthy and not very nice industrialist. Jones Junior agrees, partly because of his own interest in archaeology but mostly because his father's been kidnapped by the Nazis while searching for the chalice himself. The idea of the game is to rescue



Everyone wants to meet with Dr Jones. Unfortunately that includes a bunch of Nazis and an arms dealer.

classic?

Cheap, re-released games are finally here. Andy Hutchinson reviews the good, the bad and the downright crap...

maze. Often this involves the time-honoured manoevure of 'running away'.

When it was released, *Another World* was praised for the quality of its graphics, and four years on they still look pretty spanky. The animation is of a very high quality and this adds greatly to the atmosphere of the game. What I would question is the gameplay. I realise that it's getting on a bit, but this sudden-death style of gameplay can get intensely frustrating. You spend ages trying to get further into the game and BAM! You're dead. Buy only if you're very, very patient – or a sadist.

- **Price £19.99. Out: now.**
- **Requires: any Mac with 2Mb of RAM and System 6 or later.**
- **For more details contact Kixx on 021 606 1800.**

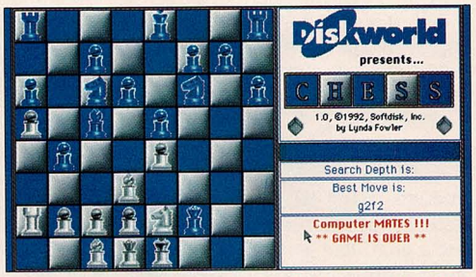
MACFORMAT RATING **72%**

CHESS FOR MACINTOSH

An old friend of mine informs me that people used to play games like this before the invention of the TV and the computer. What a fun time they must have had, sat there in silence, concentrating on their moves. For some reason, chess is back in vogue and people are reading those inscrutable newspaper chess columns.

This version of chess makes no grand claims as to its pedigree. I don't know if it's ever beaten Short or Kasparov, but it seems a bit unlikely. Graphically it's very dull and the only real technological update is the hint function that points you in the right direction. I've no idea if it plays a good game or not, because first I'm crap at chess and second I've got a life.

But if you think the chess is boring, wait until you try the space shoot-'em-up which is included, rather oddly, on the disk...



Oh, what a surprise! I've been beaten by the computer. Still, let's see how it does at the next event – swimming.

- **Price £19.99. Out: now.**
- **Requires: any Mac with System 6.0.2 or later. Supports B&W and colour monitors.**
- **For more details contact One Stop Computing on 081 780 1001.**

MACFORMAT RATING **68%**

your dad, double cross the Nazis and find the final resting place of the Grail. Not too much to ask for, is it? Nah.

This game differs from later LucasArts adventures in that there are action sequences incorporated as well as puzzles. For instance, if you get tired of arguing with a Nazi guard, you can elect to hit him. The screen changes to a side-on view of Indy and the guard and you've got to fight your way out of the situation. There's also a sequence in which you're flying a biplane and you've got to shoot down any other aircraft that come near you. To be honest these sequences don't work terribly well, especially if you're not an action-game fan already.

The puzzles themselves are well thought out and compelling. Many of them can be completed in more than one way, so if you run up against a brick wall you can come at the problem from a different angle. However the game's just not interesting enough. Maybe it's the fact that it's about six years old now, but it lacks the addictive qualities of other adventure games. If you're desperate for an Indy game, then buy *The Search for Atlantis* – it's miles better.

- **Price: £19.99. Out: now.**
- **Requires: any colour Mac with System 6.0.2 or later.**
- **For more details contact Kixx on 021 606 1800.**

MACFORMAT RATING **70%**

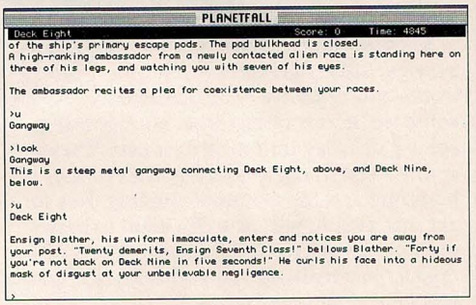
THE ZORK ANTHOLOGY

It seems that every 18 months the software houses have a look at their release schedules, realise they're looking a bit bare and decide to bung a few golden oldies out. I can't remember how many times this particular selection of prehistoric adventure games has been re-released, but I wouldn't mind betting that you'll find a previous bundle in the bargain bin of your local software emporium. The addition of *Return to Zork* (reviewed in MACFOMAT 16) doesn't really sweeten the deal either.

The very first adventure game was called *Colossal Cave*, it lived on a mainframe and everyone loved it. Then it was released for the home computer market as *Zork* and everyone loved it. Then there was another game, and another and another. And everyone loved them too. But that was about a zillion years ago now (dammit) and these games are about as fresh as Elvis's last cheeseburger.

With the exception of *Return to Zork*, all these games are plain text adventures. Now I could lie to you and say that text adventures are better because you've got to use your imagination, but I'd be talking rot. Ten years ago text adventures were fab, but in the light of the development of graphic adventures, they're about as much fun as sitting on a carving knife in your pyjamas.

Return to Zork was the much-hyped follow-up to the original text adventures. If *Zork* was


PLANETFALL
Deck Eight
Score: 0
Time: 4845
of the ship's primary escape pods. The pod bulkhead is closed.
A high-ranking ambassador from a newly contacted alien race is standing here on three of his legs, and watching you with seven of his eyes.
The ambassador recites a plea for coexistence between your races.
>u
Gangway
>look
Gangway
This is a steep metal gangway connecting Deck Eight, above, and Deck Nine, below.
>u
Deck Eight
Ensign Blather, his uniform immaculate, enters and notices you are away from your post. "Twenty demerits, Ensign Seventh Class!" bellows Blather. "Forty if you're not back on Deck Nine in five seconds!" He curls his face into a hideous mask of disgust at your unbelievable negligence.
>

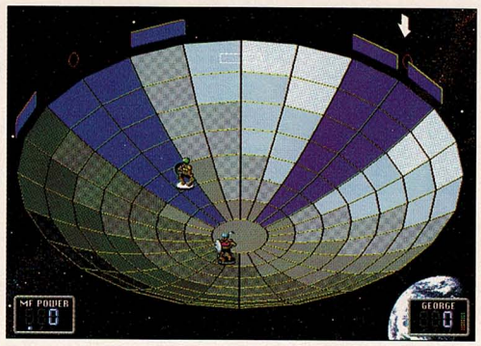
Go north, eat radish, find goblin, light lamp, get coin, avoid ghoul, throw life away, enter clinic, look sheepish, die.

a popular radio show, this was the television spin-off. Loads of scope for the designers, but they still managed to make it dull to play. I don't care if you're a real adventure game fan who pines for the 'good' old days. Spend two minutes searching desperately for the right verb so that some crappy old troll will get out of your way and you'll thank LucasArts for inventing point-and-click games. I hearby christen this anthology a Golden Mouldy, even if it is only 15 quid.

- **Price: £14.99. Out: now.**
- **Requires: Mac Plus or better, single speed CD-ROM drive, System 6.0.7 or later and 2Mb of hard disk space. Supports B&W and colour monitors.**
- **For more details contact Activision on 081 742 9400.**

MACFORMAT RATING **40%**

PARARENA



Unfortunately for Lionel and Sidney, they got separated from the rest of the hikers and ended up in a huge contact lens.

I like network games. Usually. You get better, more devious, opponents: people. *ParArena* is network compatible – just as well, because as a one-player experience, it's absolutely awful.

You control a gladiator positioned in a basin-shaped arena. The idea of the game is to deposit a ball in a cylindrical goal. You do this by guiding your character up the sides of this arena (thus gaining momentum) while lobbing the ball towards the goal. Meanwhile your competitor is trying to barge you and make you release the ball.

ParArena is a desperately dull game. It's bad enough trying to get to grips with the control method, but the really hard bit is actually scoring a goal. The goal itself is tiny and you've got to be surgically accurate to score a point. What with the other player constantly banging into you, it's practically impossible to get any points up on the board. The network option is nice, but it doesn't help. The game's still rubbish.

■ **Price £19.99. Out: now.**
■ **Requires: desire to waste twenty quid and any Mac with System 6.0.2 or later. Supports B&W and colour monitors.**
■ **For more details contact One Stop Computing on 081 780 1001.**

MACFORMAT RATING **55%**

MISSION STARLIGHT

Or Mission Impenetrable as I'd call it. This is a 'tribute' to *Tempest*, the ancient Atari arcade game in which you whizz around a vortex in a circular fashion, zapping baddies. Peculiarly, after one level of *Tempest*, the game suddenly changes into an isometric shoot-'em-up. Neither section of the game is playable, interesting or fun. You'll have more fun assembling those crappy plastic toys that you get inside inexpensive Christmas crackers.

■ **Price £19.99. Out: now.**
■ **Requires: a brain transplant and any Mac with System 6.0.2 or later. Supports B&W and colour monitors.**
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Funnily enough, the most important button on this entire screen is that one at the bottom-right, labelled 'Quit'.

MACFORMAT RATING **35%**

CRYSTAL QUEST

MACFORMAT Classic

There are, in my not-so-humble opinion, two kinds of game. There is the variety that you load up during your lunch hour for a quick blast, and there is the sort you load up at home for a slightly more involved session of gaming. *Crystal Quest* quite definitely falls into the former category.

In these days of *QuickTime* movies, fully digitised sound tracks and celebrity endorsements, software houses often forget about putting some gameplay into their products. They're so involved in the rendering, the texture-mapping and the Gouraud shading they forget that people will actually want to play their games. Thankfully, the designers of *Crystal Quest* realised that gameplay's important, and their game oozes it.

The idea's really simple. You control a little blobby ship and it's your job to collect the crystals that are left scattered about on the levels. Unfortunately there are also a variety of baddies who'll quite happily rob you of your lives and your crystals.

What makes this game so funky is the control method. It's all played with a mouse and you wiggle your ship around the screen just like it was a pointer. The snag is your vessel operates on an inertia basis, so you can't perform crisp stops. To change direction you've got to move the mouse quickly in the opposite direction, but even then there'll be a small delay.

Initially it's easy to whip around the screen sucking up crystals, but as the baddies get more devious you'll be reduced to striving to fend off the baddies. In all, there are 12 different bad guys, ranging from the relatively harmless Annoyers to the downright nasty Shrapwardens and Menaces. In order to complete a level against these bad guys you've got to learn to manoeuvre and fire at the same time, while working out the quickest route for acquiring the most crystals.

The secret to *Crystal Quest's* gameplay is that it pretends to be a simple game, but in reality you need real skill to progress. Learning how to whiz your ship accurately around the screen is a slow but rewarding exercise. The graphics are crappy, little more than glorified asterisks, but the sounds are funky, so play 'em loud. In essence this is an amazingly addictive game that's been known to reduce stable human beings into mounds of putrid jelly.

■ **Price: £19.99. Out: now.**
■ **Requires: any Mac with System 6.0 or later. Supports both B&W and colour monitors.**
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Doesn't look like much, admittedly, but *Crystal Quest's* one of the funkiest, most playable games ever developed.

MACFORMAT RATING **93%**

SKY SHADOW

NATO had sanctioned the use of strategic air strikes, so Marty packed extra-strength underwear. Just in case.

This is a horizontally scrolling shoot-'em-up. It has bland graphics (which glitch), yucky sound (which farts) and turgid gameplay (which sucks). And the plot, like the game, is pointless.

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MACFORMAT RATING **25%**

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Wolfenstein

Nazi guards, savage dogs, zombies and heavy duty weapons. Andy Hutchinson thought he was back in the playground...

Herr Bullyboy has been eating far too many cheeseburgers. Time to get some weight off those hips, arms, neck, torso...

Meanwhile in the kitchens at *Cell Block H*, Bea has had a rather nasty accident with a steam iron. Shame.

That's right, Tommy, you've won tonight's star prize, which is all the ammo you can carry and a Bren gun. Round of applause please, audience...

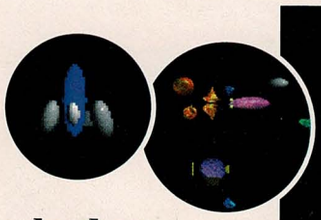
In my youth, one of my gang's favourite pastimes was playing *Escape from Colditz*. We'd take over the caretaker's hut, position two guards outside the door and then stuff Martin Stephens down a hole in the floorboards, where he'd shout up things like, 'Bally spades gawn and broke again.' And we'd reply, 'Stiff upper lip, Jenkins, but do try and keep the noise down, you're underneath the Commandant's bedroom.' Then the guards would get bored, come inside, discover our escape tunnel and we'd play marbles instead.

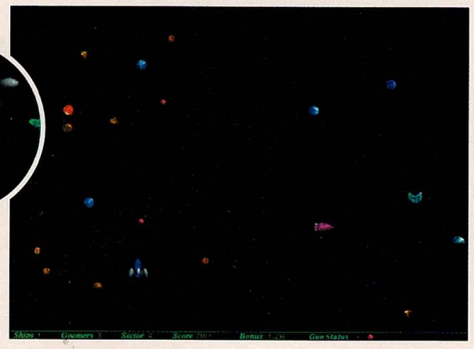
Something tells me that Id Software, the designers of *Wolfenstein*, used to play *Escape from Colditz* too, because that's essentially what this game's about. You're an allied trooper sent on a daring mission into Castle Wolfenstein, where the Nazis store looted treasures. You've got to steal the treasure back, kill as many Nazis as you can and make it out with your life.

Wolfenstein is a first-person 3D shoot-'em-up. The idea of the game is to explore the maze-like Castle Wolfenstein, shooting anyone who comes near you, while collecting all the gold you can find. This involves toodling around all the different levels of the castle, in search of secret passageways and hidden rooms, before heading briskly for the exit.

Luckily for you, the Nazis have left loads of weapons scattered around the castle and you can pick these up and use them. There are pistols, rifles, chain-guns, flame throwers and even bazookas hidden. Once you've found a weapon, it's yours for the duration of the game, but you'll need to find ammo. It's no good sneaking up on a Nazi trooper, shouting 'I shall

PegLeg





Full battle stations – if you squint you can just make out the bullets. The brilliant colours liven things up a bit, though.

Abstract shoot-'em-ups have never looked so slick. Pity about the rather greasy controls.

PegLeg is an attractive game. The baddies all look as if they were created using some sort of rendering package – while incredibly small, they are neatly animated and nicely textured. There are some sweet sounds effects, too – lots of little eeks, pops and splats, and a Doh! if you shoot a power-up. But you get the idea that at some point during its creation, Changeling Software discovered they'd made the game too easy.

Doesn't look terribly promising, does it? Rather dull, in fact. Things improve slightly when it's moving, though.

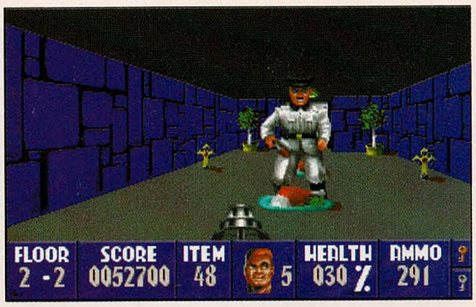
The evidence for this comes in two parts. First you have to shoot every baddie two or three times before it dies. Which you should never have to do, not when the whole screen is full of them and you have no indication of how many times you've already hit each one. And then your own spaceship blows up with just one hit. There should either be more baddies, or they should evade your bullets more cleverly. But multiple hits are a no-no.

The second problem is the control system: it's the spawn of Satan. Nudging the mouse to the right makes your ship move right, but it doesn't stop until you move the mouse to the left again. You're therefore constantly floating around the screen, unable to take your eyes off your ship for a second in case it wanders unbidden into the path of an enemy.

Meanwhile, your bullets are tiny, and so are the baddies, and the average dust-encrusted mouse simply doesn't give the precision required to aim with any degree of certainty. Why couldn't your ship simply move around as if it was an ordinary mouse pointer, its position dictated by your mouse's position on the mouse mat? Or would that have made things too simple? The instructions inform us that this system 'will take some getting used to'.

Even more stupid, the alternative keyboard controls work in a similar way. Press the **[left arrow]** key and your ship starts moving to the left. But to stop it, rather than just releasing the **[left arrow]** key, you must press a separate 'stop' key. Clearly the work of Beelzebub.

All this is a shame because with a more



'Nobody touches my food and lives,' shouted Commandant Bagel. But Tommy had the drop on him and Bagel was chips.

flambé your arse, sir', then realising that you've got no petrol in your flame thrower.

Initially the enemy resistance is pretty tame. Nazi soldiers run out of rooms and open fire, at which point you unload a few rounds of ammo into them and steal their guns. Later on you'll encounter dogs, officers, beefed up guards carrying a pair of chain-guns and even zombies who shoot something at you from their chests – bullets, I think, but it's hard to tell when you're running away. Fortunately, as the opposition gets stiffer, your fire-power gets harder, so if you've been diligent in your acquisition of weaponry, you should be able to survive.

The gameplay is great. The difficulty curve has been really well designed, enabling you to get to grips with the control system before the opposition gets too hard. There are loads of hidden rooms and tunnels, which you need to seek out if you're to find all the treasure.

Graphically the game's not terribly sophisticated. The castle is decorated in a similar style on all the levels and the soldiers look more like cartoon characters than real Storm Troopers – but then that's probably a good thing, because this is a game, not an essay on World War II. The samples are crisp and well utilised, especially the flame-thrower sound, which scared the willies out of my dog. The graphics engine doesn't run terribly fast on slower Macs (anything less than an LC475), but you can always shrink the screen size down to speed things up.

Quite a few first-person shoot-'em-ups have been released for the Mac lately and *Wolfenstein* is as good as those games – not so much in terms of graphics, but in the gameplay department. If you've got a problem with Nazi imagery (Swastikas, portraits of Hitler and the like), then I'd advise you to stay away from this game, because Castle Wolfenstein's crammed to the battlements with it. But I'd like to defend the game, because first it's a computer game, not a thesis on fascism, and second, you're on the side of the allies, not the Nazis.

The pro-celebrity prison escape was a succesful affair. Shame that Peters sat down on that mined toilet.

You could argue that games like this trivialise a hideous event in the sorry history of mankind, but then so did *Dad's Army* and *'Allo 'Allo* – and I don't remember the British Legion kicking up a stink when that show was on TV. Ultimately, *Wolfenstein's* just like those playground war games – pure escapism. Still, I can't imagine it selling particularly well in Germany.

If you think the budget games are a bargain (see page 112) maybe you ought to have a look at *Wolfenstein* first.

Andy Hutchinson

WOLFENSTEIN

Price: £12.49 for 30 levels, but by the time you read this, another 60 levels should have been released for £19.49 (Inc. P&P).
Requires: any colour Mac with at least 2.3Mb of RAM, System and 2.4Mb hard disk space.
For more details contact ComputerMate on 0707 875757 or fax on 0707 875513.

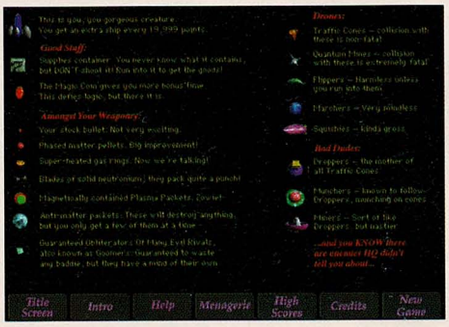
Graphics 78%
Cartoon-like and quick, but a bit repetitive after a while.

Sound 80%
Loads of chunky samples, best enjoyed in stereo.

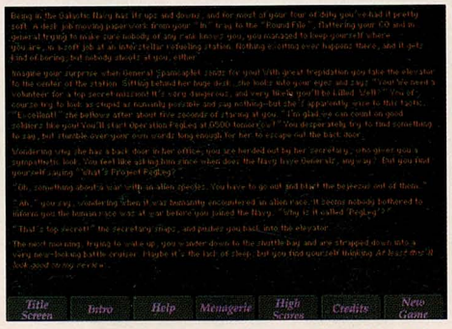
Gameplay 81%
Addictive, with a well designed difficulty curve.

MACFORMAT RATING 84%

WHO NEEDS A MANUAL?



PegLeg is – quite literally – self-explanatory, thanks to a series of screens that detail how to play it. All the baddies and controls are listed, with tips how to deal with them.



There's even a screen that explains the plot, such as it is. This multimedia innovation makes the manual redundant. Some day all games will be written this way.

Wow! This is more like it. Just look at those great graphics. But don't get too excited – this is only the title screen.

PEGLEG

Price: $24 (plus P&P). Out: now.
Requires: any colour Mac with System 6.0.7 or later, 1.9Mb of RAM and 2.1Mb hard disk, 12-inch or larger 8-bit monitor. PowerMac native.
For more details contact Changeling Software on 0101 203 292 5087.

Graphics 78%
Small, but pleasant in an odd sort of way.

Sound 80%
Assorted comedy spot effects.

Gameplay 54%
Rather dull once the novelty has worn off. And the controls are ridiculous.

MACFORMAT RATING 60%

rational control system, and an attempt to toughen the game up by fairer means, *PegLeg* could have been, if not a classic, then at least mildly diverting. It works like a kind of free-form version of the arcade game *Centipede*, with each type of baddie moving around the screen in its own pattern. Occasionally power-ups appear that make your bullets bigger and more rapidly-firing.

PegLeg's got lots of neat touches, like a high-score table and one of those screens that tells you about each of the baddies, just like arcade machines used to in the old days. The on-screen instructions are well-written, with no spelling mistakes, and the presentation is as polished as the shiny, rendered baddies.

But ultimately there just isn't enough to it. New enemies are introduced at too modest a rate, while old ones linger on long after you've grown completely bored with them.

Crystal Quest (see the budget game reviews on page 112), by comparison, uses a similar mouse-driven control system, but manages to make it work intuitively and lets you fire in the direction you're pushing the mouse, rather than just upwards all the time. It's also a more varied and interesting game, even if it doesn't look as pretty.

Jonathan Davies

Gamebusters

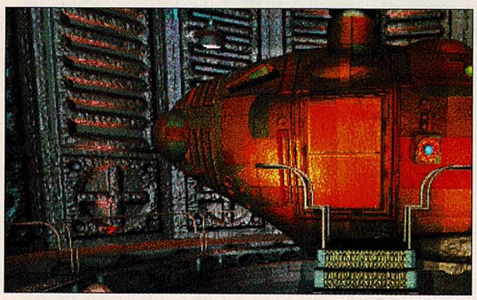
Mystified by *Myst*? Try part two of our three-part walk-through. Plus some handy hints for *Theme Park* and *Syndicate*. Richard Hill is your MC.

If you're stuck in that excellent but rather infuriating adventure, *Myst*, help is at hand. Last month we guided you to the Mechanical Age and back again with your first page for the book in the library. (Remember, it doesn't matter which colour page you collect – just make sure you stick with that one colour all the way through.) This month it's the Selenitic Age...

If you've got any complete game solutions, such as this epic three-parter from Gareth Maddocks of Bishop Auckland, send them in. Gareth won a copy of *Rebel Assault* for his trouble. Who knows what you could win?

Myst

Go into the power station in the woods. Press the first and third buttons on the left column and the third and fourth buttons on the right column. The gauge should read 59 volts. Go to the spaceship and open its door. Inside is a piano. Play the tune you found in one of the library books and then go to the other end of the ship and adjust the first slider until the sound matches the first note of the tune. Do this for the other four sliders and corresponding notes. Pull the lever and a book will appear on the screen to take you to the Selenitic Age.



The yellow submarine is your transport through a complex web of tracks – follow the directions or face being stranded.

There are five transmitters scattered around. Turn them all on and take note of each symbol. You'll find the pages along the way too.

Now head through the tunnel to get to the receiving station and aim each labelled camera at the transmitter with the matching symbol. Press the Σ button, and note the order in which the sounds are played back to you.

Go back to the door near the starting point and enter this code to get in. Inside you'll find a submarine-like vehicle. Get inside and follow these directions through the maze: N, W, N, E, E, S, S, W, SW, W, NW, NE, N, SE. You'll find a book leading back to the library on Myst Island.

Find the transmitters by exploring the island thoroughly and you're halfway home. You'll also need a keen musical ear.

Go to the hut in the forest and use 724 as the combination for the safe. Inside is a box of matches. Use this to light the boiler. Turn the wheel around – you'll hear a noise. This is a lift carved into the big tree outside. When the noise stops, turn the wheel the other way and run around to the back of the hut. You'll see a lift coming down – step inside it as it passes. You'll find yourself in an underground room with a book leading to the Channelwood Age.

Head for the windmill on the rocks and turn the water tank's tap on. Go outside and use the junction switches to make the water head towards the lift on the right (left at the first junction, right at the next three). This whisks you to the first floor.

Once upstairs, go forwards into the first hut, then go right, right, right, forwards and into a hut with a switch. This unlocks the door that leads to the stairs down – you'll get to them by heading forward twice and right twice, then forward and right again. On the ground level, direct the water to the right at the first junction you come to. Go back upstairs and take the lift by the stairs to the second floor. Here you will find the pages and a message to decipher.

Up the wooden stairs to... where? This flight is one of the routes up into the treetops in the Channelwood Age.

Find your way through this arborial maze and pick up your ticket home – just watch out for those pesky Ewoks.

Go down to the ground floor and make the water go left, left and right from the windmill. This will enable you to raise a submerged bridge. Go to the other side and turn the handle that connects a pipe to a final lift. Head back to the windmill and set the water switches along a path of left, right, right and left. Go round to the last lift and you'll find the book that returns you to the library.

Next month, join us for the fateful conclusion, when the final Myst-ery is solved at last.

Theme Park

Bullfrog's challenge to build your own Alton Towers has been baffling you. Gregory Nutt from Kingston has a couple of money making tips and they've done the trick and won him a fiver. When you're asked what your nickname is, type **HORZA**. When you've started to make a park, you can get lots more lolly by pressing the letter **C** – for 'cash', presumably. You'll get a message confirming you are a dirty rotten cheat, but you can keep on accumulating dosh and click the message away when you're done.

If you type **DEMO** instead, you can go through the tutorial (as seen on MACFORMAT 19's CD-ROM) that shows you how to set up an orderly and massively popular park. If you've been having trouble creating a well-maintained enterprise, this should help you figure out some things.

Finally, if you're playing as **HORZA**, you can get access to all the shops and rides by typing in this sequence – **[Option] Z**, **[Ctrl] Z** and **[Shift] Z.** Now you'll have everything you need to create your money-making paradise.

Syndicate

Just enough space to pass on a couple of passwords for Bullfrog's game of shady corporate shenanigans, courtesy of Michael Yang from Luton. Go to the **Options** menu and type in **ROB A BANK** as the company name to get a million dollars. To make the clock run faster and complete research more quickly, type **WATCH THE CLOCK** instead.

Michael wins five pounds for his efforts – help us out and you could win a fiver too! The address is: Gamebusters, MACFORMAT, 30 Monmouth Street, Bath BA1 2BW. *Richard Hill*

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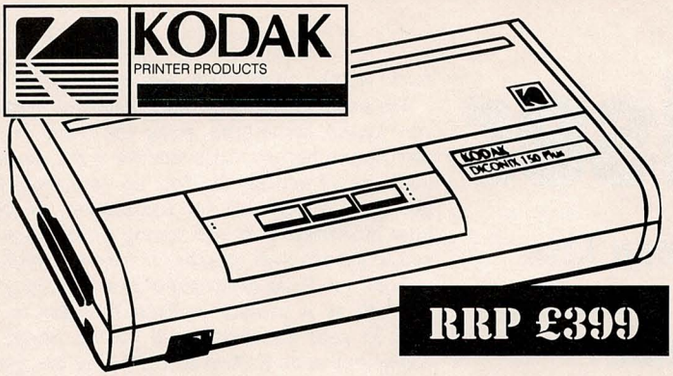

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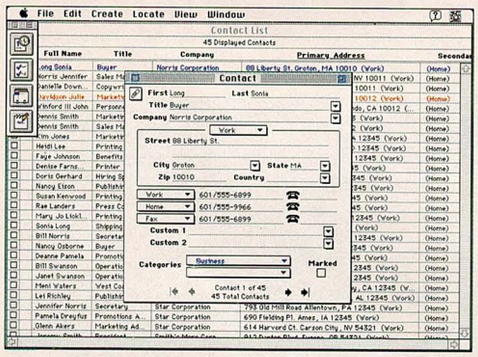
Claris Organiser

Can't see your Mac for Post-It Notes? Been late for too many meetings? Then write 'buy *Claris Organiser*' on your latest 'things to do' list.

The acid test of a personal organiser is whether or not you need to be organised to use it. A good organiser should be able to put your typed equivalent of Post-It Notes into a structured order and then remind you of when and where things need to be done – and in what order.

But apart from the Newton MessagePad, I haven't come across anything that's really intuitive enough for the unorganised. What about *Claris Organiser*? Well, it looks good: it can integrate your calendar, tasks, contacts and notes in one compact package. And it's a helluva lot faster than Apple's failing fledgling.

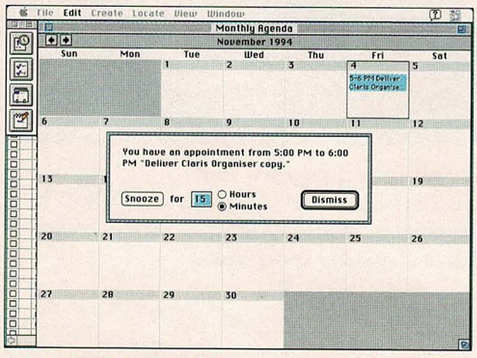
Organiser is based around four different modules – Agendas, Tasks, Contacts and Notes. Each of them can import and export data to and from the others with a click of your mouse. So, for instance, setting a date for lunch with a



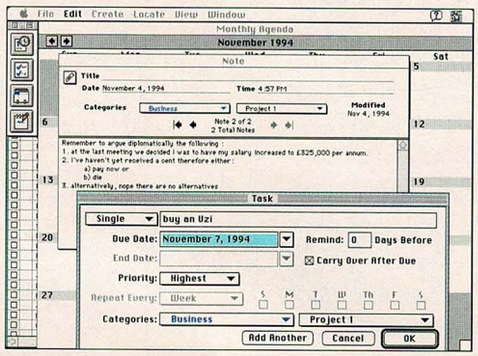
One of the first things you'll want to do is enter all your contacts. You can import these from any other contacts manager like *Address Book*, *QuickDex* or *DynoDex*.

friend requires nothing more than entering 'Lunch with Alex (as long as he's paying)' in the Agenda on a chosen date.

Double-clicking on 'Alex' will then call up his phone details from the Contacts module so you can confirm the meeting. This Agenda


File Edit Create Locate View Window
Monthly Agenda
November 1994
Sun Mon Tue Wed Thu Fri Sat
5:45 PM Deliver Claris Organise...
You have an appointment from 5:00 PM to 6:00 PM "Deliver Claris Organiser copy."
Snooze for 15 Hours Minutes
Dismiss

Tasks or to-do items can be entered manually into your agenda for the day, week or month and assigned alarms, which will trigger whether or not *Organiser* is running…



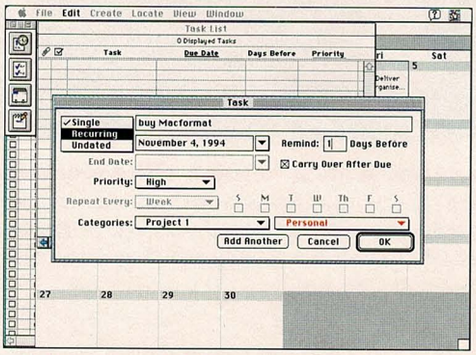
Because each module in *Claris Organiser* is inter-linked it's possible to attach tasks to notes and vice versa – so that all your appointments and tasks are linked with reminders.

event can then be alarmed, made to remind you as often as you wish, and be moved around by dragging it to a new date and time in either daily, weekly or monthly Agenda views.

The Tasks module is probably the prime reason anyone will buy an organiser: Calendar and Alarm functions are readily available as shareware, but being able to enter and keep track of 'to-do items' is the secret to successful time management – particularly if you're able to prioritise the tasks at hand.

You can create tasks in a number of different ways in *Organiser*, but perhaps the simplest is by making an attachment between your Task Manager and your Contacts list. Here you simply open up your Contacts window and drag the entry for the person you wish to get in touch with over the Tasks button in the floating button palette. A Task dialogue box pops up for you to set priority, frequency and reminders.

Once in the Task list (and if your phone is connected to a modem, of course) you can double-click on any item referring to someone in your contacts list and your modem will call that contact automatically. Or you can make the call manually, and then click a button to be



…Or these tasks or to-do items can be copied from the task manager simply by dragging the entry for the task over the button that represents your agenda.

ready to take notes when you're connected.

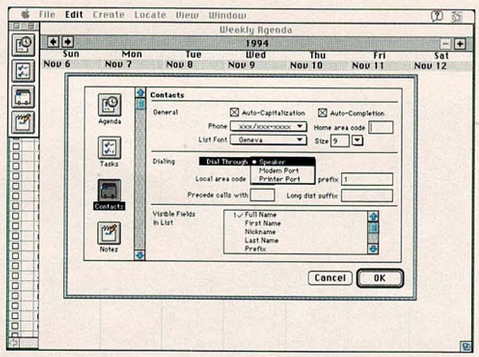
For tasks which don't involve other people – you know, something along the lines of 'remember to put up those shelves' – it's simply a question of setting the job up as a one-time task with a date due for completion, deciding how important it is and setting a reminder for you to get your act together before it's too late.

Then you'll be able to monitor the course of the task as it progresses from one day to the next in your schedule, until you've finally no choice but to do it. And if you're like me, you'll quickly find that constant reminders are the best way to get most things done.

The real strength of *Organiser* lies in the area of attachments. It's straightforward enough to attach a task or a note to a contact, but it's also a simple job to take notes in a meeting by dragging the appointment to the notes button, or to prepare for the meeting by dragging an appointment to the task area of the daily agenda.

As you might expect, *Claris Organiser* doesn't need to be up and running for an alarm notification to appear on screen. Any reminder can be set up to appear as often as you like. Also useful is the facility to import data from the other leading organisers and address books, and the fact that you can print out calendars of appointments and to-do items for when you're really in a busy period. You can even set these to print out in Filofax-page format, for use when you're away from your Mac.

Andy Storer



You can connect a fax modem to *Organiser*, so you have no excuse for forgetting to contact anyone – you can even set up auto-fax reminders to others who forget you!

CLARIS ORGANISER

Price: £49. Out: now
Requires: Mac Plus or better, 1.2Mb of free RAM, System 7 or later.
For more details contact Claris on 081 756 0101.

Features 90%
Some smart linking makes this a comprehensive personal manager.

Ease of use 86%
Once you've scaled the fairly easy learning-curve, it's a breeze.

Documentation 86%
Clear and concise, the manual tells you all you need to know.

Value for money 88%
If you're organised enough to keep using *Organiser*, it'll pay for itself in no time.

MACFORMAT RATING 87%

CD Directory

Been searching forever for that elusive CD file? This CD cataloguer finds it in a few clicks

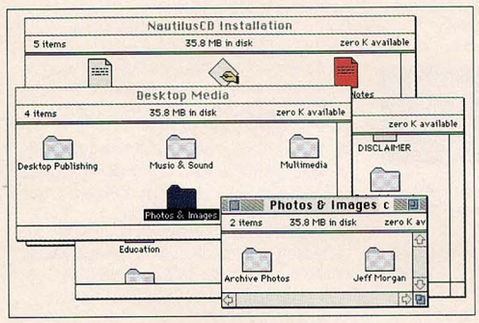
Finding one particular file among dozens of CD-ROMs is a slow, boring and terribly time consuming task. *CD Directory* catalogues each CD-ROM and speeds up this process, which makes the job of using CD-ROMs much easier.

Once the program's installed, every time you put a CD-ROM into your drive a dialogue box appears, asking you if you want to catalogue the CD-ROM. If you click **OK** the program creates a catalogue in a folder on your Desktop.

Open that folder and you see the icons of all the CDs you've catalogued. Double-clicking any of those icons produces exactly the same effect as double-clicking the original CD-ROM itself – a window opens showing you its contents. You can then navigate your way around the CD by opening folders just as if it were in the drive.

If you double-click a program or file you're automatically prompted to insert the appropriate CD-ROM. Apart from negating the need to insert a CD to browse it, this method's also quicker because the information's stored on your hard disk – which is faster than a CD.

Most useful of all is the ability to use the standard **Find** command from the **File** menu to search for a file. This is invaluable if, say, you are trying to find a specific piece of shareware that you think may be on one of MACFORMAT's fabulous cover CD-ROMs. *[Do I detect a little bias here, Derek? – Ed.]*



Here I am navigating my way around a CD-ROM. So what? Well, the point is that the CD isn't in the drive it's been cleverly saved as a catalogue on my hard drive.

There is always a difficult balance when creating utilities, between ease of use and number of features. *CD Directory* is incredibly easy to use, but it does lack a couple of important features. The catalogues are created on your internal drive with no option to save them automatically to an external hard disk. This can be done manually, but it's a fiddly process.

The reason you may want to do this is because the catalogues can fill up your internal disk rather quickly. A complex CD-ROM creates a catalogue over 2Mb in size, and even a simple one takes 100K.

Also, there is no way to avoid the dialogue box asking if you want to catalogue a CD-ROM when it's inserted. There should be a facility to hold down a key when you insert one to bypass this. But once a catalogue has been created, at least the dialogue doesn't appear again when you enter the same CD-ROM.

This is a great product for people who regularly browse their CD-ROM collection, but it is a little expensive – especially when compared to shareware products such as *CatFinder*, which is featured in MACFORMAT 17 (if you don't have MACFORMAT 17 turn to back issues on page 102 for details of how to get hold of one). *CD Directory* is very useful but with just a bit more thought and a bit more power it would have been indispensable.

Derek Smith

CD DIRECTORY

Price: £57.50 Out: now.
Requires: any Mac, System 7.0 or later, CD-ROM drive.
For more details contact Principal on 0706 832000.

Features Good, but lacking power.	80%
Ease of use Incredibly easy (if you don't want to save to an external drive).	90%
Documentation Brief, clear and to the point.	90%
Value for money Let's hope it's much cheaper by mail order.	70%
MACFORMAT RATING	82%

Buying advice

Whether you're buying by mail or in person, here are some sensible precautions to bear in mind. Note that everything here applies to buying from a business; most of it does *not* apply to buying from a private seller in MACFORMAT's reader ads pages.

Always be absolutely clear about what is included in the price – postage and packing? Any necessary cables, etc? VAT? (By law, an advert must say *explicitly* if VAT is not included; if it doesn't, VAT *is* included. But this could be in the small print – so read it all!) If you're buying in person, check that everything is there and it all works properly before you leave the shop. If you're buying by mail, ring the supplier first to confirm the price and availability, and ask what your options will be if there should be any problem. Find out when you can realistically expect delivery. Always keep all receipts and make records of all correspondence, whether it's by mail or by phone.

How to protect yourself

If you are buying goods of more than £100 in total value, always try to use a credit card. That way, in the unlikely event of anything going wrong, you will be legally entitled to claim against the credit card company as well as the seller, even if the seller has gone bust. You may also get extra insurance – check with your credit card company.

If you're not paying by credit card, pay by cheque. Never send cash through the mail – it is impossible to trace if it gets lost, you can't stop payment if you need to, and even if you have proof of posting you can't prove how much you sent.

Keep records. If you are paying by credit card keep a note of the exact time of the order and ask for an order number. If you are paying by cheque make sure you fill in the details of date, amount and payee's exact name in the stub – and keep it!

When a mail order arrives

Check everything carefully. If anything is missing, contact the supplier immediately. If something doesn't work, make obvious checks (the fuse, etc), but don't try to repair it. If there is anything you're not happy with, don't use it – if you do, you could be deemed to have accepted it.

If there's a problem

Whether you bought it by mail or in a shop, the law says a product must be:

1. 'of merchantable quality' (that is, broadly speaking, it must work);
2. 'as described' (in the advert or in person – and this one criterion also applies when you're buying from a private seller, not a business); and
3. fit for the purpose for which it was sold or for the purpose you specified when you ordered it.

If it fails to meet any or all of these criteria, then you are entitled to return the goods for a refund, receive compensation for all or part of the value, or get a replacement or free repair, depending on the seriousness of the defect. These are the 'statutory rights' that adverts always say are 'not affected' by any extra guarantees. The supplier cannot change or deny these rights.

If you're not happy about something, always contact the supplier first and politely explain your problem. Most problems are sorted out at this stage with no fuss. If not, put your complaint in writing and send it to the manager or owner – ask for the correct name and job title. Give the supplier a reasonable time to reply – say ten days or so.

If the problem is still not resolved, you may need to take some sort of legal action to enforce your rights. This need not cost you a lot of money. You should seek advice from a solicitor (ask about the free advice scheme) or from one of the following organisations (check in your local telephone directory):

- Citizen's Advice Bureau;
- Trading Standards Office (listed under your local council);
- Office of Fair Trading; or
- County Court (ask about the 'small claims procedure').

Free reader ads

If there's anything you want, whether kit or software, look no further...

HARDWARE FOR SALE

■ LC475 8/160 complete, StyleWriterII printer, Apple CD300+ CD-ROM drive and System 7.1. All manuals, all boxed, plus Microsoft *FoxPro 2.5c, ClarisWorks* and some games – £1,500. Contact Mr Ollerearnshaw on 0850 138153.

■ Newton MessagePad, mint condition, Ni-Cad, car adaptor charger, leads, carrycase, warranty, boxed – £250 ono. Also loads of Mac software, CD, PB165C – £950 ono. Tel: 0865 56782.

■ PowerMac 7100/AV, 16Mb of RAM, 320Mb hard drive, 14-inch monitor, keyboard and CD-ROM external. Good condition. Sale as upgrading – £2,500. Tel: 0633 258196.

■ Mac SE 4/40, System 7, Apple standard keyboard, mouse, plus extras – £200. Tel: (nr. Gatwick) 0342 842387.

■ Mac SE 4/40, Apple keyboard, mouse, drive sometimes sticks, hence £75. Useful spares? Tel: (nr. Gatwick) 0342 842387.

■ Apple Style Writer I, virtually unused, boxed with manual – £125. Tel: (nr. Gatwick) 0342 842387.

■ Mac portable, 3Mb, very little used, carry case, manuals, etc – £200. Tel: (nr Gatwick) 0342 842387.

■ External boxed 160Mb hard disk, SCSI and terminator – £230 ono. Contact Tracey Mills on 081 882 0299.

■ Agenda MicroWriter, PDA with mains charger, cables, Mac connection kit, original System 7, savvy software and manuals – £100 ono. Contact Jones on 071 223 5798 (evenings).

■ PowerBook 100, 2/20, laptop external HDFD, battery charger/PSU, manuals. Perfect except thin horizontal line (unlit pixels) near top of LCD, hence £280. Tel: 021 449 3034 after 6pm.

■ PowerBook duo 270c, 240Mb hard disk, 12Mb of RAM, includes AC adaptor and modem, very good condition. – £1,500 ono. Tel: 0267 281508.

■ Mac LCII 4/80, keyboard, mouse, Apple 14-inch high resolution colour monitor. Apple ImageWriter printer, manuals, etc – £650 ono. Contact Islam after 6pm on 021 449 3034.

■ Mac SE 4/40, System 7.1, security kit and DiskLock. Also StyleWriter II. Need £600. Contact Terry on 0245 257093.

■ Mac IIsi 5/80 inc. Hi-Res 14-inch colour monitor, *Microsoft Office/Adobe Premiere* (latest version), System 7, keyboard II plus mouse. 4-Sight fax/comms plus Psion Dacom modem. MBA Bus. *Pcan* software. All new. Contact Grant on 0223 893363.

■ Mac SE 4/40, System 7.1, good condition. Contact Steve on 051 487 9391.

■ Mac IIci, 8/80, 14-inch colour monitor, extended keyboard and mouse. Perfect condition – £1,300. Tel: 0453 731933.

■ Apple SelectWriter 310, PostScript level 1, only 1 month old. Still boxed – £500. Contact Barry on 081 518 3092.

■ Apple Mac 14-inch high quality (Sony) monitor. Boxed as new (six months old) with balance of warranty. Upgrade to 17-inch forces sale – £225. Tel: 091 273 6687.

■ DayStar Turbo 040 accelerator card, 40 MHz with FPU, suit Mac II, IIcx, IIci, IIsi, IIvi, IIvx. Still under guarantee – £500 ono. Tel: 0734 263635.

■ Mac Performa 200, 4Mb of RAM, 40Mb hard disk. *ClarisWorks 1, PC Exchange, At Ease*, StyleWriter printer – £450 ono. Tel: 0924 253637.

■ A3 Wacom Tablet and digitiser, complete with disc manual, boxed, little used – £599. Tel: 0371 831 183.

■ Radius Pivot mono monitor, SE/30 card, 16 grey scale, latest Pivot software – £250. Contact Tim on 0723 377992 (answer machine if out).

■ Mac LC 4/40, 12-inch colour monitor, keyboard, mouse, light home use. Very good condition – £500. Tel: 0602 725369.

■ Mac IIfx, 16/120, keyboard, mouse, Apple RGB monitor, video card, cables, System 7. Boxed – £1,250. A4 portrait monitor – £100. Contact Jack on (Herts) 0438 714678.

■ Logitech Scanman, complete with software and manuals, very good condition – £150. Tel: 0372 722275.

■ Beginners DTP Mac Package – £300, consisting of MacPlus, External drive, hardware with independent Word Processing, drawing, page layout software, package option also 3D Design CAD. Plotter software. Tel: 0892 516655.

SOFTWARE FOR SALE

■ CD-ROM games: *7th Guest, Iron Helix* and *Myst* – £25 each. Tel: (Boreham Wood) 081 207 2075 (evenings).

■ *MacroMind Director 4*, brand new, unused – £700 plus VAT. *Director 3* – £450 plus VAT. Tel: 081 964 8372.

■ *Forms Factory* software, Graduated tints, blockouts, step and repeat, excellent for continuous forms. Cost £1,000 new. Surplus to requirements, will sell for £450 plus VAT. Tel: 01244 830505.

■ *Indy Jones & Fate of Atlantis* – £25. *Unlimited Adventures* – £25 (RPG construction kit.) Call or fax on 0904 634166 after 5.30 and ask for Tom.

■ *Claris Impact* (accelerated for PowerMacs), brand new, unused, unregistered. Cost £215 new, any offers? Tel: 0423 330125 (evenings only) or e-Mail **cjma100@hermes.cam.ac.uk**

■ *Claris CAD* Dxf Graphics convertor. Tel: (after 5pm) 091 415 75948.

■ *ClarisWorks 2.0* (registered), as new, boxed, original disks and manuals – £50. Tel: 0332 874706.

■ *Strata Studio Pro* for Mac and PowerMac, boxed with manuals and CD, plus *Getting Started* Video – £500. Tel: (Leeds) 0113 2735275.

■ *MacTools, StuffIt Deluxe* and *UnderWare* bundle – £50. *CD-ROM ToolKit* – £25. *Lemmings* – £15. *Monkey Island* – £15. *PGA Golf* – £15. All unregistered and unused. Contact Bobby on 081 348 9081.

■ Microsoft *Works* 3.0, unopened, brand new – £35. Also *FileDirector*, unopened, brand new – £15. Contact Graham on 081 657 0128.

■ *Stacker* – £25. *Putt Putt/Parade* – £10. *Indiana/Atlantis* – £15. *CAT* – £10. *FunHouse 8.0* CD – £10. All unregistered. Contact Darren on 091 4212672.

■ *Pagemaker 5.0* plus CD-ROM Pro-Pack, boxed, complete with letter of registration – £350 ono. Includes p&p. Contact Simon on 081 441 2780 (after 7pm).

■ Insignia *SoftPC Professional* – £150 including p&p, opened but not registered, enables you to run *DOS* and *NetWare* programs (RRP £185). Contact Keith on 051 645 1731.

■ *Sensory Overload* – £50. Or will swap for *Marathon* or *Wolfenstein*. Swap *SimCity 2000* for *U-Boat* or £20. (Day) 0628 414292 or (eves) 0865 726 728.

■ Mac music software: *Cubase, Vision/Galaxy, Mastertracks, Encore, Deck/Metro, Performer* and more. All master disks. Contact Dan on 0493 330441.

■ *Eurofocus Colour Publishing CD* including *Pixar Tapestry 1.1, Painter 1.2* (both with manuals), plus *Kai's Power Tools, Cachet* and

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MACFORMAT is not a forum for selling pirate software. If you are selling software, you must include a signed statement that you are selling the original issue disks and including all original manuals and documentation, and that you have not retained any copies of the software.

I have read and understood the conditions for the inclusion of my free reader ad.

Signed .....

Send your form to: **MACFORMAT reader ads, 30 Monmouth Street, Bath BA1 2BW.**

USER GROUPS

Need hands-on help with a Mac problem? Want to swap shareware or freeware, or just meet other Mac enthusiasts? Try a user group near you...

■ Artists Bulletin Board now on-line 081 778 6547. We specialise in obscure software and magazines. It's all free. Modem speeds 2400 – 9600, 24 hours. (MF24)
■ Blackburn Mac UG. Tel: Roger Moreton on 0254 670043. (MF 26)
■ Bristol (BAUD). Tel: Malcolm Ingsley on 0454 616846. (MF 22)
■ Calling all Macintosh User Groups, Programmers and Mac Users. MacShare UK is now in the planning stages to start the UK's first support group for Mac User Groups and Shareware Programmers. However, we need your input, if you can think of any services your User Group could need or would like help with setting up, or if you are a programmer who is having problems with distribution etc, then please write to: MacShare UK, Lane End, Oak Tree Lane, Tavistock, Devon PL19 9DA.(MF26)
■ Cambridge Apple UG. Tel: Ian Archibald on 0223 311157. (MF 22)
■ Glasgow Mac UG. Tel: Stephen Broadfoot on 041 339 6646.
■ Liverpool Apple UG. Bulletin Board: 051 949 0307
■ London Mac User Group.Facilities include: telephone support for full members, shareware at reduced prices, monthly magazine and monthly meetings in London presented by leading hardware and software manufacturers. For full details write to: PO Box 3550, London, SE4 1RT. Tel: 081 690 2904. (MF 22)
■ Mac user group (nationwide) All levels. Non-commercial. Newsletter, shareware, etc. Send large SAE for sample newsletter to Ref MF, 9 Burrill Drive, Wiggington, York YO3 3ST. (MF 23)
■ Mac User group, covers all aspects of Mac Scene Free membership and monthly newsletter. For details write to Sonic, 11 Charnock House, Lancaster Court, Chorley, Lancs, PR7 1PB. Or by e-mail on Cosmos BBS 'Dave Andrews' (I'm the programming Forum Moderator) or on Portland BBS 'Dave L Andrews, or on the Internet: sonic@cosmos-uk.org. Don't forget you pay nothing! (MF 25)
■ MacAssist, Cardiff and district. Tel: Nigel Arrighi on 0222 224682 (MF 22)
■ MacBel UG vzw: Belgium's ONLY non-profit mac-usergroup. We provide bimonthly magazines, internet-access, local BBS-support (TeleFinder 32-3-4543069) and meetings. Call Bart at 32-3-6404031 or e-Mail liemb@innet.be (MF26).
■ MidApple – Apple 2 and Mac User Group meets monthly in West Midlands. Please send SAE to MidApple, 24 High Street, Wall Heath, Kingswinford, DY6 0HB for details.(MF 23)
■ New Mac User Group just starting up. We urgently need Mac-related literature, shareware, PD and new members. Free membership to MACFORMAT readers. Can you donate a BBS program so that we can go on-line? Members asked for small monthly contribution to cover cost of BBS lines and newsletters (we're non-profit-making). Interested? Write to The Network, 11 Charnock House, Lancaster Court, Chorley, Lancs PR7 1PB. Or tel/fax Dave on 0257 265025 (BBS numbers will be posted to all applicants once software is obtained. (MF24)
■ North West Macintosh and Apple User Group – Cheshire area, North. Contact Mr George Evans on 0270 583714. (MF26)
■ Nottingham Computer Club. Please send a SAE to Sherwood Community Centre, Mansfield Road, Nottingham.
■ Poole Mac User Group. Tel: Bob Lister on 0202 684441.(MF26)
■ SE Essex Mac User Group. Contact Michael Foy on 0702 468062.(MF26
■ Southern Mac UG, Salisbury and district. Contact Roger Ford on 0722 780102. (MF26)
■ Southwest Mac User Group, Bristol. Tel: John Elver on 0272 693119. (MF26)
■ Staffordshire Polytechnic Mac User Group, Staffordshire. Contact Mark Stiles on 0785 52331.(MF 22)
■ Sussex User Group, Hastings, East Sussex. Contact Garry Nevin on 0424 714110. (MF26)
■ Telematic & Multimedia User Group. We are currently looking for new members, please contact Benjamin Stanley on 021 420 1482.
■ The Computer Textile Design Group. The essential link between computer and textile designer. Contact Dee Chester, 12 Le Brun Road, Eastbourne BN21 2HZ. Tel: 0323 725781.(MF24)
■ The Finnish Mac User Group (fiMUG) runs AppleGarden aFirstClass BBS at tel. +358 0 694 Membership FIM 150pa. Ca.800 members (Sep/94). Send a SAE to fiMUG, PL 122, FIN-00181 Helsinki, Finland for more information (MF26)
■ West Midlands User Group. Tel: Danny Torbica on 0902 336172.(MF 22)
■ Yorks and Humberside Mac UG. Tel: Derek House on 0423 358853.(MF 22)

Your user group will be listed here free of charge for six issues, then deleted in order to help weed out defunct groups. The number at the end of each entry is the last issue in which that entry will be included. If you want your group's entry renewed (or corrected), just send in the coupon on page 122 (opposite) a couple of issues in advance. If you run a group which isn't listed here, please send us your details!

Please note: this list is provided as a free service for amateur, non-profit-making Macintosh user groups. MACFORMAT does not endorse or recommend any particular group and cannot be held responsible for any losses or problems you might suffer as a result of contacting user groups advertised here.

more – £225. Interested? Contact Bobby on 081 348 9081.
■ *RAM Doubler 1.5*, suits 030/040 Macs and Powermacs. Boxed, unused, full instruction book – £35. Tel: 0252 713477.
■ *Poem 500 Desktop Embroidery System* for LCII upwards. Competition prize, unused, boxed with manuals. Retails at £1,200, but will sell for £750 ono. Tel: 041 636 5560 (evenings).
■ *Fourth Dimension V3.0*, boxed as new, unregistered – £250 o.n.o. (R.R.P £750+). Contact Rouric on 0533 858138 (home) 0533 522279 (work).
■ *Microsoft Office*, unopened – £250. *SoftPC with Windows* – £150. *Freedom of Press Classic* – £50. *Lemmings* – £15. *OIDS* – £10. *Hellcats* – £15. *SimCity Deluxe* – £15. Tel: 0602 819225.
■ Games: *Crystal Caliburn* – £15, *Kings Quest 6* – £15. Tel: 041 339 7314, and ask for David, Flat F.
■ *Deluxe Studio, Dbase, PageMaker 3, StuffIt 2*, four-colour 51606 ink cartridges for HP Colourjet A3 printer (CYMK). £50 for all software and £10 for cartridges. Tel: 0604 832149.
■ Educational software: *Math Blaster Plus, Math Blaster Mystery, Word Attack, Spell It Plus, Typing Instructor Encore*, Original disks and manuals all for £85. Tel: 0222 551425.
■ *Where in the World is Carmen Sandiego? Deluxe*, original disks and manuals, unused, still sealed in original box – £20. Contact Alan on 0222 551425.
■ *Darkseed, Monkey Island 1*, original disks and manuals – £15 each. Contact Alan on 0222 551425.
■ *Microsoft Office 3*, includes *Word 5.1, Excel 4, PowerPoint* and *Mail*, six months old, all manuals, etc, in top condition – £150 ono. Contact Richard on 0752 556303.
■ *ClarisWorks 1.0*, unopened unregistered, give away at £45 ono. Tel: 0532 791337.
■ *Myst*, best CD game for the Mac – £19. Contact Jerome Dewhurst on 0494 863426 (near London).
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■ *SimCity 2000, Civilization, Rise of the Dragon, Might and Magic III, Flying Nightmares* (PPC version) – £20 each or all for £90 (all original). Tel: 0602 862936.
■ *Authorware Professional*, costs £4,000 new, will accept £1,000. *Claris CAD V 2.0* – £175. Adobe *Photoshop 2.5* upgrade – £75. *SimEarth* – £20. Contact Majid on 0296 330190.
■ *Populous II, Might & Magic I & II, PGA Tour Golf, Internet Starter Kit* (complete with disk). Offers or swap. Contact Steve on 0449 774559.
■ *PageMaker 5.0a* plus CD-ROM pro-pack, boxed as new with letter of registration. Contact Gareth on (evenings) 081 441 2780. Any reasonable offers.
■ *SimCity 2000* will sell for £20 or will swap for *Syndicate*. Contact Tim on 0604 770548 (evenings).
■ *Eurofocus* Colour Publishing CD volume 1, contains nine programs including: *Pixar Tapestry, Kai PowerTools, Fractal Painter*, unregistered, cost £599, will sell for £280 ono. Tel: 0983 614957.

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■ Syquest cartridges: swap my 88Mb and 44Mb together for your 270Mb. Contact Martin Mayer on 0734 461 364.
■ Exchange wanted for my SE/30 8/50 with System 7.1 for your Portable, PowerBook Duo or PowerBook. No cash, swap preferred. Call Michael on 0670 820437.

CONTACTS

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■ People wanted to swap shareware. Send PD list, disks, etc, to: Mika Myyry, Sárkántie 12, 80100 Joensuy, Finland.
■ Mac users wanted to trade PD and shareware, MIDI files, especially music software. Contact Dan on 0493 330441.
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Mac OS rules, OK?

The Mac operating system is superior to anything on the PC, says MACFORMAT reader Lindsay Bruce.

In Macformat 19, Benjamin Muller says that Apple has not made any innovations of note in the last ten years. I believe he's wrong. There is a huge jump between System 6.0.1 and System 7.1, and it looks like this jump is repeated with System 7.5. God knows some of the things Apple has done seem stupid enough, but the fact is that the Mac has always had the best operating system out. An independent survey proves this by showing that Mac users get 43% more work done in a given time than PC users.

As far as the machines go, I agree that Apple has been releasing, and then dropping, too many models. But at least it is trying to get it right, which is a damn sight more than any other manufacturer. I am a proud 660AV owner, and I've probably got more reason to be annoyed with Apple than anyone else. Having bought the thing, I was assured that the Quadra would stay at the cutting edge of the market. Eight months later, I can't upgrade my Mac to PowerPC because the 660AV was dropped long ago and nobody seems interested in producing a PowerPC card for AV machines. Am I distraught? Am I disgruntled? No, because my Mac suits all my current needs, and probably a lot more in the future. How many people are still using their old Classics or SE/30s? Thousands, I bet.

With PowerPC, Apple had hoped to grab a substantial chunk of the PC market from IBM, while IBM itself did what it has always done: nothing. It sat quietly, let other people make the mistakes and watched to see what developed. This is where, I think, both companies have failed.

As far as I know, Apple has not made significant inroads into the PC market. Original Mac owners make up the vast bulk of those who have bought PowerMacs. Apple is now trying to target cheap multimedia Macs at the home user, in the hope that these will persuade people to swap their office PCs for PowerMacs. IBM has waited too long. When it floods the market with PowerPC machines through its vast distribution network, people are going to look at the unfamiliar operating system and remember the stigma of DOS. No Mac owner is going to convert to an IBM machine.

This is where third-party developers come in. Now that Apple is letting other people make Macs, we are going to see stiff competition on the hardware front, while Apple sits grinning because it's got the best operating system out – a system IBM and others will find very difficult to match. The only consequence of this battle/partnership will be Microsoft seeing its profits eaten away. (Good riddance, I say.) All Apple and IBM have done is maintain the status quo.

Lindsay Bruce
Blairmore, Nr Dunoon, Argyll

■ This letter has been slightly shortened for reasons of space.

OVER TO YOU...

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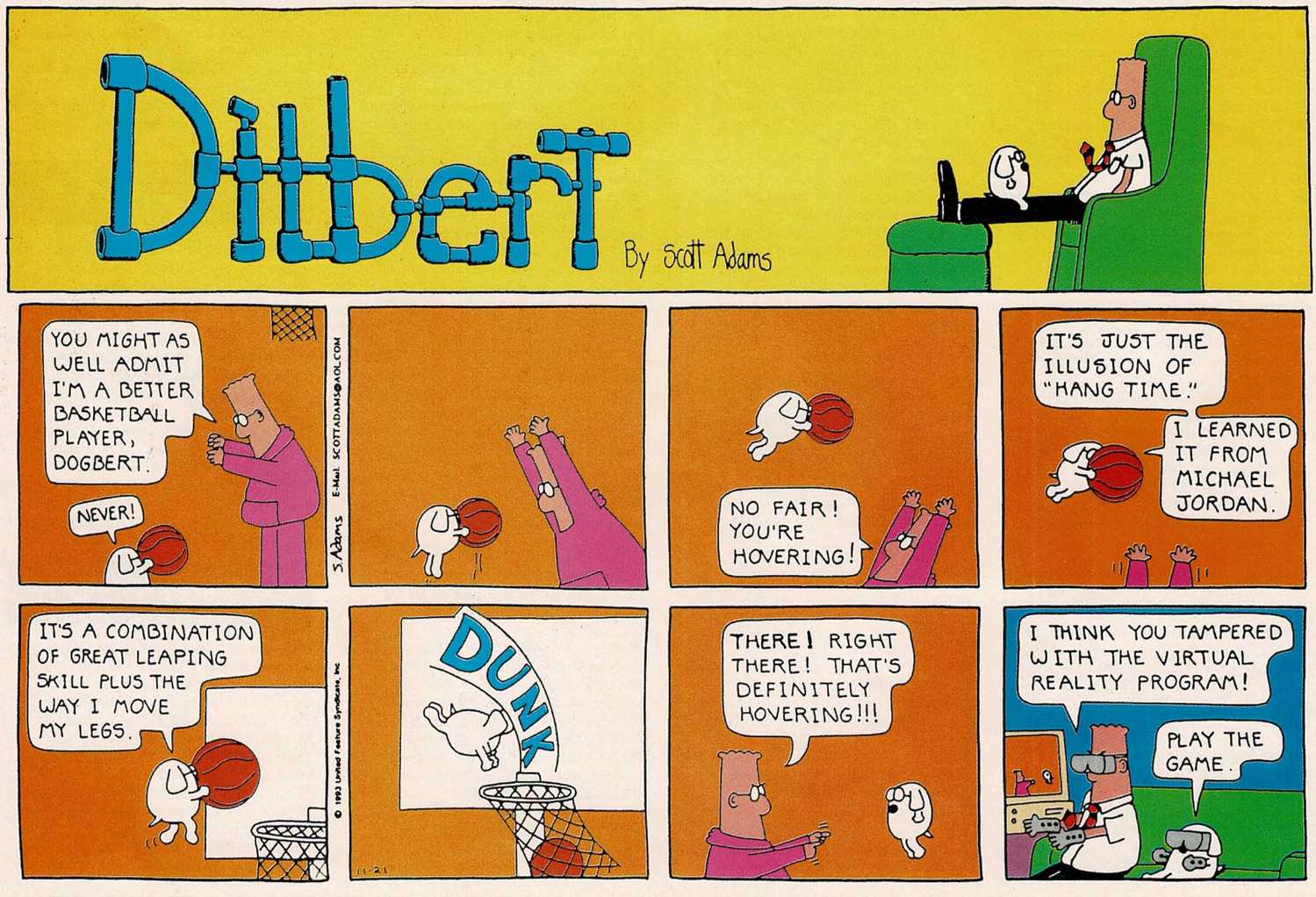
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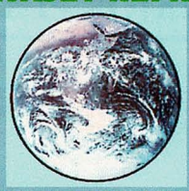

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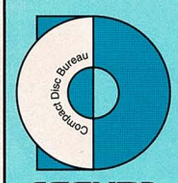

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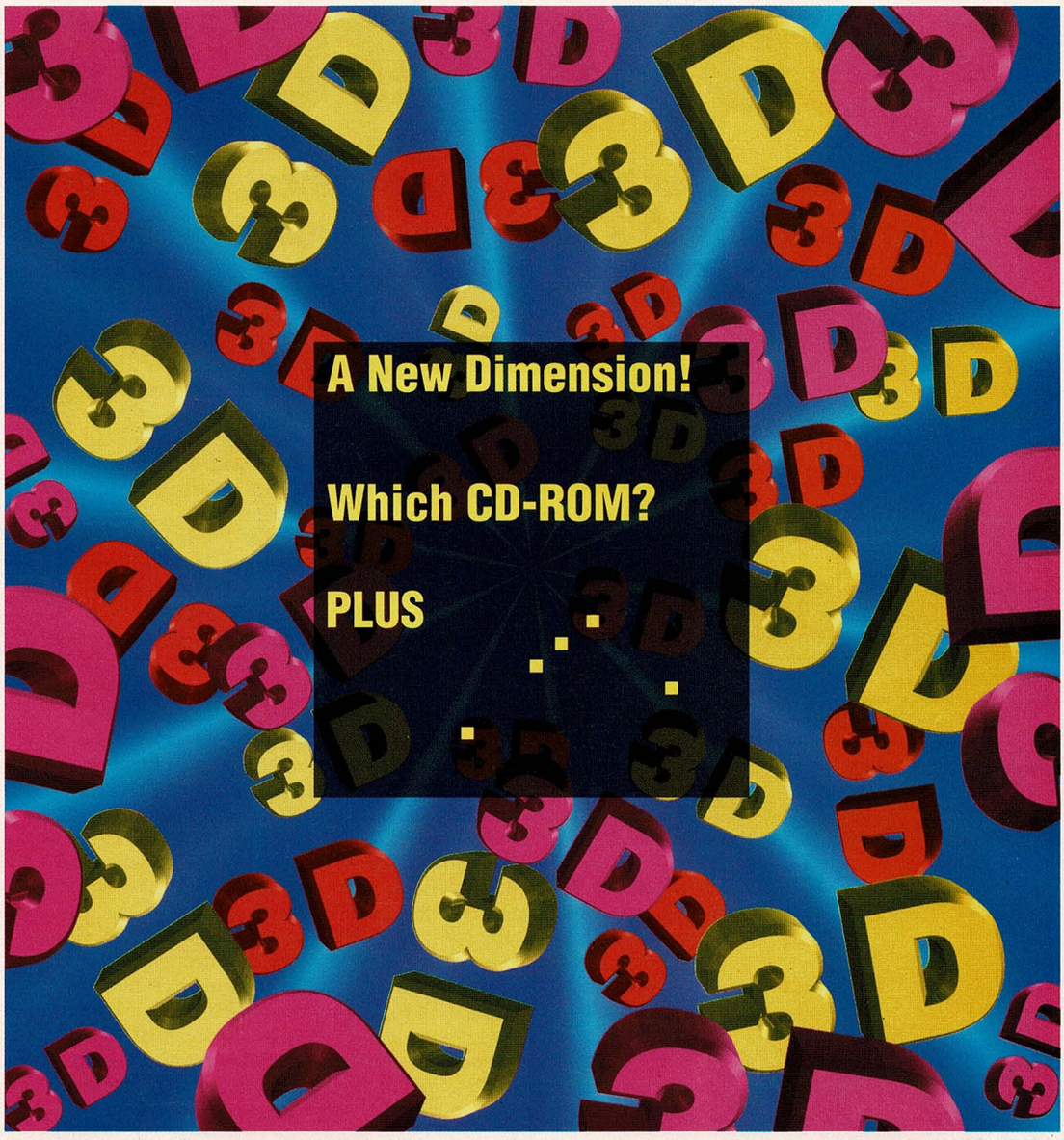
Next month



ARE YOU A WINNER?

Back in MACFORMAT 18 we gave you the chance to win one of ten copies of *ClarisDraw*, the all-in-one graphics package combining drawing, painting and text-handling features, from *[now, who was it again?]* Claris. The ten lucky winners are Joel Smith of Ongar in Essex, Andy Dernie of Bottesford, Notts., Michael Fynsk of Odense Sø in Denmark, Lars Pryds of Odder, also in Denmark *[Do I see a pattern developing?]*, Kimberley Ellis of London SW11 *[Nope, obviously not]*, C F Chim of London SE19, Lisa Sanpoh of London SW6 *[Mind you, there seem to be an awful lot of Londoners creeping in here...]*, P Noble from Prestwick in Ayrshire *[That's better]*, Eric Brennan of Glasgow *[Hang on... I've got nothing* against *Scotland, but let's not start anything here]* and Jon Kwok of Cambridge *[Which is okay. Nobody could object to Cambridge. And if you're from Oxford and think I'm wrong, I don't want to know]*. Well done to all!

A timely word from the Tiny Zone...

Hello and welcome again to the Tiny Zone, the section of MACFORMAT that gives a whole new meaning to the term 'optical character recognition'. But that should be no problem, if all Tiny Zone's readers are as sharp-eyed as J R Stone of Bromborough in the Wirral, who writes: 'The most unusual (verified) Mac use I have spotted is to save the world! Scotty used one in *Star Trek IV* when the Enterprise travelled back in time to take a whale (or two) into the future to save the world. They needed a tank, of course, of very strong material, and its construction needed a computer to design... etc. After a minor mishap (the Mac not having voice recognition), he used the keyboard. They should have travelled back to 1995!' (J R wins himself – or is it herself? – a MACFORMAT binder for that. Anyone else spotted an unusual Mac use?) Funny how what was a joke in a film made just a few years ago is now reality. It's a bit like those '50s visions of the future in which everyone is driving around in huge cars with fins – you can only extrapolate from the present, and *real* revolutions can change things with amazing speed. Desktop video is like that: non-linear editing on Macs is becoming the norm today, just three years after Apple introduced *QuickTime* – and *QuickTime* is becoming the video norm on *Windows* as well, ending the chaos of each CD maker having to reinvent the wheel. Apple conquers the PC – who'd have predicted *that* three years ago?

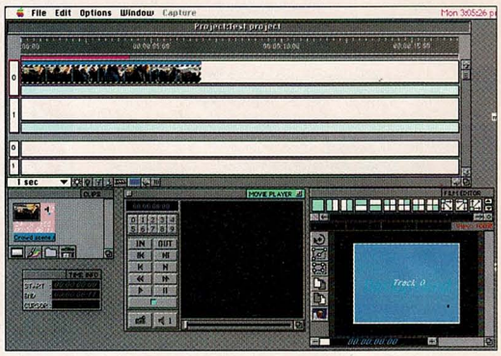
MACFORMAT 22 goes on sale on Thursday 2 February

Available with high density floppy disks or CD-ROM. Ask your newsagent to save you a copy or see the insert in this issue for our special subscription offers

Win the easy-to-use DTV program

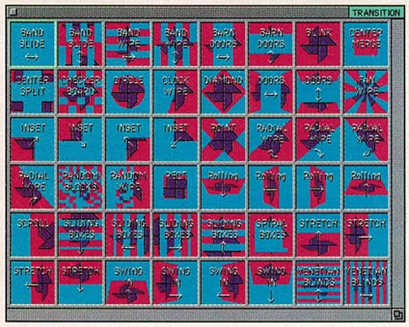
MediaFactory has to be the easiest way to get into desktop video editing. It's got filters, transitions, text effects – the lot. We have ten copies to be won, courtesy of NUTS Technologies!

Not so long ago, DTP software on the Mac revolutionised publishing. Today, Mac-based desktop video editing is about to transform filmmaking. So here's your chance to become a Macintosh movie pioneer! *MediaFactory* from NUTS Technologies makes it all straightforward – if you can click-and-drag, you can edit video on your own Mac screen. What's more, unlike some DTV packages, *MediaFactory* doesn't require a high-end Mac, just a Mac II or better with at least 4Mb of free RAM, System 7 or later and *QuickTime 1.5* or newer. If you have an AV Mac or the appropriate digitising kit fitted, you can capture films from external sources such as VCRs, but even without any extra hardware you can import and edit *QuickTime* movies. *MediaFactory* gives you the power to incorporate up to 99 separate film tracks plus 99 audio tracks into a movie, cut and splice them using a fully interactive visual display, and add a whole range of special effects.



But that's not all! The program also boasts a comprehensive set of transition effects, from simple fades to clock wipes, checkerboards and barn doors – and applying them is as easy as 'click and drag'! You can create captions and make them scroll along the screen, fade in and out, or tumble down and bounce up again. A fast preview mode means you can check your efforts without waiting hours for a finished render, and if your Mac can cope, *MediaFactory* can handle anything up to full-screen, full-motion video!

MediaFactory costs just over £200, but we have ten copies to be won, courtesy of NUTS Technologies. To enter, just answer the three easy questions below and send us your answers on a postcard or the back of a stuck-down envelope. Employees of Future Publishing, NUTS Technologies, Profile Public Relations, Computers Unlimited and associated companies, and their families, are not eligible to enter. No multiple entries are allowed, unless they are on VHS video tape. Please state if you don't want your name added to a mailing list. The editor's decision is final, and the closing date for entries is Friday 10 February 1995.



THE QUESTIONS

1. How many separate film tracks can you incorporate into a movie using *MediaFactory*?
(a) 4Mb
(b) 99
(c) 198

2. *MediaFactory* offers a range of transition effects. How many of these can you choose from?
(a) 4Mb
(b) 48
(c) 99

3. What is the name of Apple's system for displaying video on a Mac screen?
(a) QuickTime
(b) QuickStep
(c) QuickSilver

Need help? Check the feature on page 44! Then send your entry (remember your address) to: 'Lights! Camera! Desktop!' Compo, MACFORMAT, 30 Monmouth Street, Bath BA1 2BW.

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To get you started making you movies we have put together clips taken at the 1994 Apple show. It's easy to do by follow full instructions inside the ma
See back cover of magazine for more details & compatibility infor
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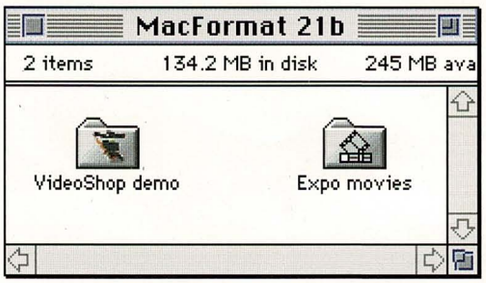
A collection of essential utilities
See back cover of magazine for more details & compatibility information
NEARLY 3MB OF GREAT SOFTWARE!

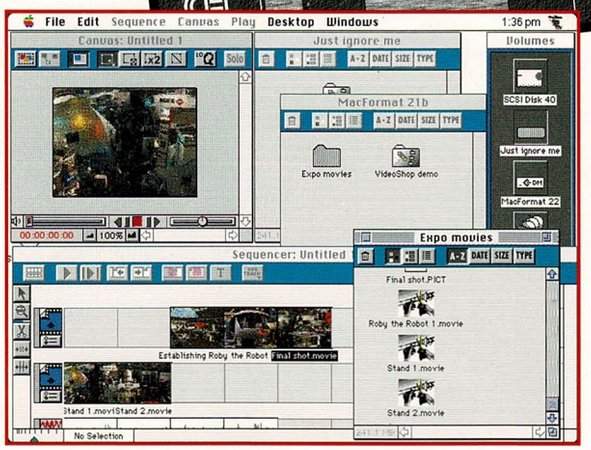
ON THE DISKS THIS MONTH...

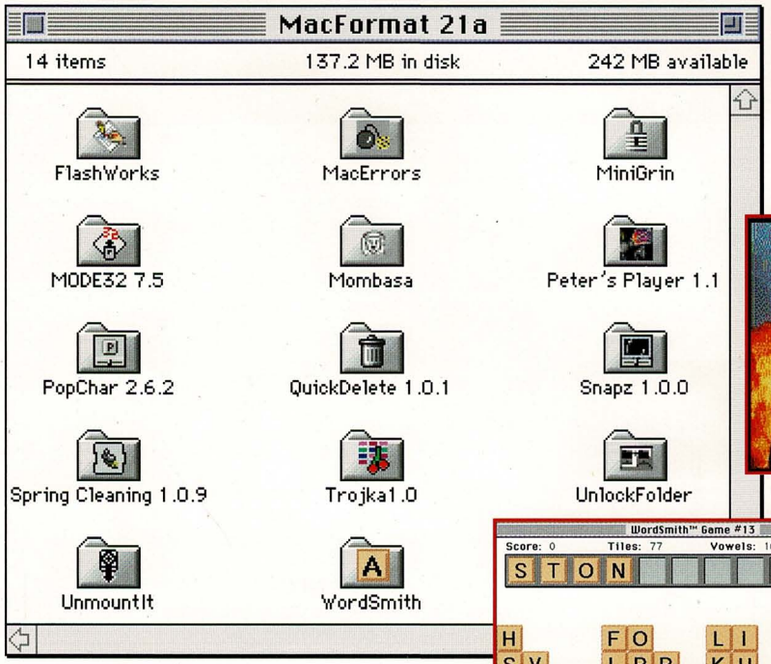
Two great disks this month, doubling the amount of top quality software that we bring you. This month, Disk A has a fantastic collection of shareware, including games, utilities, troubleshooting and education. Disk B contains a demo of the video editing program Avid *VideoShop*, along with some *QuickTime* movies you can use to get straight into desktop video!

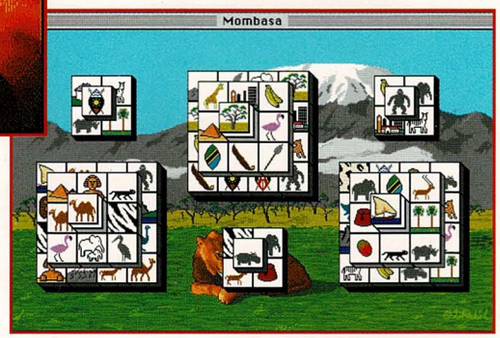


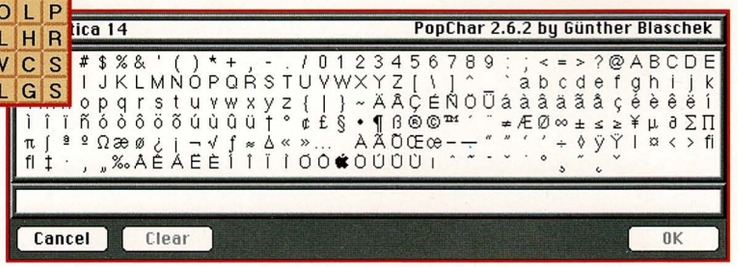
VIDEOSHOP

Sample the world of video editing with our Save-disabled version of *VideoShop*. We have include some short movie clips so that you have everything you need to get started. There are full details of this and other packages inside the magazine. Requires: Colour monitor, 1.4Mb RAM, System 6.0.7 or later.









SOFTWARE COLLECTION

This month we feature three great games, *Tojka*, *Mombasa* and *WordSmith*, which will test your mind and your reflexes. Also on the disk we have *FlashWorks*, which can help you learn a foreign language, and *Peter's Player*, a *QuickTime* movie player. *Snapz* is the most advanced screen-capturing utility we have seen and can take pictures of screens when others can't.

To accompany the troubleshooting feature inside the magazine we bring you another great selection of the best shareware utilities to keep your Mac working.